

Exhibit A

versions of HTTP.

In addition to different versions of HTTP, the HTTPD 37 of the MSDS 10 may operate with other implementations of HTTP. For instance, the W3C's has an implementation of HTTP called "Jigsaw." Jigsaw is an HTTP server entirely written in Java and provides benefits in terms of portability, extensibility, and efficiency. The MSDS 10 may employ Jigsaw or other implementations of HTTP.

With regard to the transmission of messages to the user's computer 32, the MSDS 10 permits the user to sample the voice message or to preview the facsimile message without requiring the MSDS 10 to transmit the entire message to the computer 32. This sampling ability is a significant benefit since the transmission of the entire message would frequently tie up the computer 32 for a rather long period of time. Thus, with the preview or sample feature, the user can determine whether the user needs the message transmitted to the computer 32.

If the user does decide that the entire message needs to be transmitted, as stated above, the user's computer 32 might be receiving the message for a relatively long period of time. After the entire message has been received, the user then has the options of viewing, listening, retrieving, or saving the message. As an alternative, the user's computer may instead indicate the contents of the message to the user as the message is being received.

For instance, with a voice message, the user's computer 32 could send the message to an audio speaker as the message is being received. In this manner, the message would be

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played in real time and the user would not need to wait until the entire message is received before listening to the message. In order to play the messages in real time, the messages are preferably in the RealAudio (RA) format, which the user can select as the preferred file format for voice messages.

5           In operation, the MSDS 10 would transmit an HTML file containing an RA file. If the user selects the RA file with the browser on the computer 32, the browser will activate a program for use with RA files. The operations and functioning of this program will be apparent to those skilled in the art and will be available as a separate software package or will be incorporated within a browser program. The RA program will request the RA data file  
10       containing the message from the MSDS 10 and, as the RA file is being received at the computer 32, this program will play the message in real time.

          The MSDS 10 and the user's computer 32 could also be arranged so that each page or even line of a facsimile message could be displayed as the computer 32 receives the facsimile message. Further, although the transmission of a data message is relatively fast in  
15       comparison to a voice or facsimile message, the computer 32 could also be programmed to permit access to the data message as the message is being received.

          The invention has been described as storing and transmitting voice messages. It should be understood that the voice message would probably be the most often type of audio message stored at the MSDS 10. The invention, however, may be used with any type of  
20       audio message and is in no way limited to just voice messages.

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According to another aspect of the invention, the MSDS 10 may be used as a file repository serving as an archive for a particular user or group of users. As described above, the MSDS 10 may maintain a list of all messages for a particular user which is displayed to the user when the user access his or her mailbox. The MSDS 10 may store all messages, whether they are voice, facsimile, or data, for a user in the database indefinitely. The MSDS 10 may therefore be relied upon by a user to establish the authenticity of a message and the existence or absence of a particular message. Through the MSDS 10, a user can therefore maintain an accurate record of all received email messages, facsimile messages, and data transfers.

10 In addition to serving as a file depository, the MSDS 10 may also function as a document management tool. As described above with reference to Fig. 2, when the MSDS 10 receives a message, the MSDS 10 updates a database with information on the message. This information includes the type of message, whether it is a facsimile message, voice message, or data message, the time and date at which the message was received, the size of the file, such as in bytes, the telephone number of the caller leaving the message, as well as other information, such as the number of pages of a facsimile message. Because the telephone number called is unique for each user, the information also includes the intended recipient of the message.

20 An example of a data entry 300 in storage 11 for a message is shown in Fig. 17. The data entry 300 represents the entry for just a single message with each message having a

separate data entry 300. Preferably, the data entries 300 are stored in a relational database and may be searched through a structured query language (SQL).

As shown in Fig. 17, the data field 300 for a message may comprise numerous data fields for describing the message. One of these data fields may comprise a field 301 for indicating the name of the person receiving the message. As will be appreciated by those skilled in the art, the person may be identified in numerous ways, such as by a portion of the person's name or by a unique number. Another field 302 in the data entry 300 indicates the type of the document, such as whether the document is a facsimile message, voice message, or data transfer, and fields 303 and 304 respectively indicate the date and time that the message was received by the MSDS 10. The telephone number of the caller is indicated in field 305 while the size of the message, which may be measured in bytes, is indicated in field 306 and the number of pages of the message is indicated in field 307. A document number for uniquely identifying the message is indicated in field 308. As discussed above, the files or messages received for a particular user may be numbered sequentially in the order that they are received by the MSDS 10. The files and messages, however, may be numbered or identified in other ways, such as by a combination of numbers with an identifier for the date when the message was received. Also, the documents number or identifier may be unique for each file or message directed to a user or, alternatively, may be unique for each file or message directed to a plurality of users, which is advantageous when the MSDS 10 tracks documents for an entire company or other group of users.

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In addition to fields 301 to 308, the data entry 300 for a message or file may have other fields 309 for describing or documenting the message or file. The other fields 309, for instance, may be used to identify the type of storage that a message should receive. The messages or files may have different lengths of time that the message is stored before being automatically deleted. The type of storage, such as whether the full text of the message is stored, may also be indicated by field 309. Another example of a trait that may be contained within the other field 309 is security. At times, a user may desire and may be granted access to another person's mailbox, such when the MSDS 10 tracks documents for an entire company. By designating a message or file as secure in field 309, a user may restrict or deny access to that message or file by other users. The other fields 309 may also be used by a user to customize the MSDS 10 according to his or her own desires. For instance, if the user is a company, the company may want to classify messages according to the division at which the message is directed, such as one code for marketing, one for sales, one for engineering, and one for legal.

As another example of a use of one of the other fields 309, a user can input notes in the other field 309. When a user initially receives a data entry 300, the entry 300, for instance, may include data in all fields 301 to 308 except field 309, which has been left blank. The user can then input his or her notes in the other field. An initial data entry 300 may include the field 305 for the caller's telephone number which contains the digits for the calling number. The user, however, may not readily recognize the caller from just reading

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the telephone number listed in field 305. To more clearly indicate the caller, the user may input notes in field 309 to identify the caller's name. Alternatively, the notes in field 309 may reflect part or all of the contents of the message. The user may receive a large document or message and may input a brief description of the document or message in the field 309.

5 As another example, the recipient of the message may read the message or document and discover that the caller is requesting some service or goods from the recipient, such as a request for certain documents or delivery of a certain quantity of goods. The recipient may read the document or message and place some notes in the field 309 to indicate the type of follow-up service or action that needs to be taken. An assistant to the recipient can then view the notes in field 309 and take appropriate steps to ensure that the requested service or goods are delivered. If the data entry is security protected, one of the other fields 309, as discussed above, may grant the assistant limited access to just the field 309 or may grant more expansive access whereby the assistant can view fields 301 to 309 as well as the actual document or message. The fields 309 may serve various other purposes, as will be apparent to those skilled in the art.

Fig. 18 illustrates a process 320 for using the MSDS 10 for document management purposes. With reference to Fig. 18, a user sends a search request to the MSDS 10 for a particular document or set of documents at step 321. The user may issue this request with the computer 32 by clicking on a link, such as a link to "Search Documents," which may be presented to the user by the MSDS 10 after the user has been granted accesses to his or her

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mailbox at step 72 shown in Fig. 3. The MSDS 10 may present the user with the option to search the document archives at other times, such as when the user first attempts to access the mailbox at step 62, or when the URL received by the HTTPD 37 from computer 32 points toward the document archives.

5           In response to this request, the HTTPD 37 sends the user a search query form at step 322 to allow the user to define a desired search. An example of a search query form is shown in Fig. 19. The search query form may include an entry for each of the data fields 301 to 309 in the data entry 300. For instance, the user may input one or more names for a recipient and have the MSDS 10 search for all messages or files directed to just those recipients. The user  
10   may also indicate the type of document, such as whether it is a facsimile, voice message or data file. The search query form also has entries for the date or time, which preferably accept ranges of times and dates, and an entry for the telephone number of the caller to the MSDS 10. The search query form may also include an entry for the size of the file or for the number of pages, which is relevant if the message is a facsimile message. The search query form  
15   may also include an entry for the document number, which may accept a range of document numbers, and also an entry for another field.

          At step 323, the user enters the search parameters in the search query form with computer 32 and returns the information to the MSDS 10 through the Internet 30. The user may define the search about any one data field or may define the search about a combination  
20   of two or more data fields. For instance, as reflected in the completed search query form

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shown in Fig. 20, a user may define a search by designating the document type as a facsimile and the calling number as (404) 249-6801. Once the user has finished defining the search, the user then selects the "SEARCH" link shown at the bottom of the screen whereby the user's computer 32 would send the completed search query form through the Internet 30 to the HTTPD 37 of the MSDS 10.

At step 324, the HTTPD 37 receives the completed search query form and, through CGI 35, invokes one or more of the application programs 31 for performing the desired search for any files or messages falling within the parameters of the search. The results of the search are passed from the application programs 31 through the CGI 35 to the HTTPD 37 and, at step 325, are returned to the user through the Internet 37. Preferably, the MSDS 10 returns the search results in the form of a listing of all files or messages contained within the search parameters, although the MSDS 10 may return the results in other ways.

An example of the search results of the query shown in Fig. 20 is shown in Fig. 21. As discussed above, the parameters of the search were all facsimile messages from telephone number (404) 249-6081. With reference to Fig. 21, this query resulted in three messages being discovered. The first document has a document number 11 and is described as being a facsimile from the designated telephone number to Jane Doe on May 31, 1995, and consists of three pages. This first-listed document is an example of the facsimile shown in Fig. 7. The other two documents respectively correspond to document numbers 243 and 1,002 and are also from the designated telephone number.



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At step 326, the user selects the desired file or message from the listing of messages and files. For instance, by clicking on the first listed document, namely document number 11, the computer 32 sends a request to the MSDS 10 for a viewing of that document and, in response, the MSDS 10 provides a viewing of the document according to the user defined preferences. As described above, the user may receive a reduced size image of the first page, a full size image of the first page, reduced size images of all pages, or full size images of all pages of the facsimile message. Thus, if the user selected the fourth display option as the user defined preference, the MSDS 10 would return an image of the first page of the facsimile, such as the one depicted in Fig. 7.

At step 326, the user may also have the MSDS 10 save the search results. For instance, as shown in Fig. 21, the user may input the name of "CHARLES R. BOBO FACSIMILES" as the name for the search. By clicking on the "SAVE SEARCH AS" link, the name of the search is provided from the computer 32 to the MSDS 10. At the MSDS 10, the HTTPD 37 transfers the information from the computer 32 to the CGI 35 and the CGI 35 invokes an application program 31 to store the results of the search in storage 11 under the designated name. The invoked application program 31 preferably does not store the contents of all messages but rather stores a listing of the search results in the storage 11.

The results of a search may be stored in storage 11 as either a closed search or an open search. If the MSDS 10 saves the results of a search as an open search, then the files or messages in that named search may be updated with recent files or messages falling within

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the particular search parameters for the search. On the other hand, a closed search is one in which the files or messages in the named search are limited to those existing at the time of the search. For example, if the MSDS 10 saved the search results shown in Fig. 21 as a closed search, then any retrieval of the "CHARLES R. BOBO FACSIMILES" would result in only the three listed documents. If, on the other hand, the search named as the "CHARLES R. BOBO FACSIMILES" was saved by the MSDS 10 as an open search, then the MSDS 10 would reactivate the search query shown in Fig. 20 in response to a request by the computer 32 for that search in order to obtain all facsimile messages from that particular telephone number, including those received after the initial saving of the search results.

With reference to Fig. 19, rather than defining a new search, the user may click on the "STORED SEARCHES" link in order to receive the results of a previously performed search. For example, by clicking on this link, the MSDS 10 may return a listing of searches stored for that particular user, such as the searches shown in Fig. 22. As shown in this figure, the "CHARLES R. BOBO FACSIMILES" is included within the list of stored searches. If the user then selected the "CHARLES R. BOBO FACSIMILES" search, the user may then be presented with the listing of facsimiles shown in Fig. 21, possibly including recent additions to the search group.

With reference to Fig. 19, the MSDS 10 may also provide a user with a link to "RECENT FILES" at step 322. By selecting this link, the MSDS 10 may return a listing of all facsimile, voice, and data messages received with a particular period of time, such as the

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last month. By placing the "RECENT FILES" link on the search query form rather than in the listing of "STORED SEARCHES," the user can quickly turn to the most recent files and messages. The search query form may contain other such easy-access links, such as a link to the last search performed by the MSDS 10 on behalf of the user.

5       The messages or files received by the MSDS 10 need not arrive from a third party. In other words, the MSDS 10 may be used as a file repository or as a file manager for documents generated by the user itself. The user may call the designated telephone number for receiving messages and transmit voice messages, data messages, or facsimile messages and have the MSDS 10 document the receipt and content of these messages. A user may  
10   easily use a facsimile machine as a scanner for entering documents into the storage 11 of the MSDS 10.

      The MSDS 10 may have applications in addition to those discussed-above with regard to serving as a message deliverer, file repository, and file manager. For instance, the MSDS  
10 may perform some additional processing on the incoming calls prior to forwarding them  
15 to the user. For voice messages, this processing may involve transcribing the message and then returning the transcribed messages to the user. The MSDS 10 may therefore be viewed as offering secretarial assistance which may be invaluable to small companies or individuals who cannot afford a secretary or even to larger businesses who may need some over-flow assistance. The transcription may be provided by individuals located in any part of the world  
20 or may be performed automatically by a speech-to-text recognition software, such as

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VoiceType from IBM.

Another type of processing that the MSDS 10 may provide is translation services.

The incoming call, whether it is a voice, facsimile, or data message, can be converted into SGML and then forwarded first to a translator. Given the reach of the Internet, the translator  
5 may be located virtually anywhere in the world and can return the translated document via the Internet to the MSDS 10. The MSDS 10 can notify the user that the translation has been completed through email, voice mail, pager, facsimile, or in other ways. The user would then connect to the Internet and retrieve the translated document. The translation services of the MSDS 10 may also provide transcription of the message, such as with speech-to-text  
10 recognition software.

The foregoing description of the preferred embodiments of the invention have been presented only for the purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form disclosed. Many modifications and variations are possible in light of the above teaching.

15 The embodiments were chosen and described in order to explain the principles of the invention and their practical application so as to enable others skilled in the art to utilize the invention and various embodiments and with various modifications as are suited to the particular use contemplated. It is intended that the scope of the invention only be limited by the claims appended hereto.

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## CLAIMS

I claim:

1. A network message storage and delivery system, comprising:
- means for receiving an incoming call and for detecting an address signal associated with said incoming call, said address signal associated with a user of said message storage and delivery system;
- means for receiving a message accompanied with said address signal, said message being in a first file format;
- means for converting said message from said first file format to a second file format;
- means for storing said message in said second file format in a storage area;
- means for receiving a request from said user for said message and for retrieving said message from said storage area; and
- means for transmitting at least a portion of said message in said second file format to said user over a transmission link;
- wherein said portion of said message is transmitted to said user over the network, said second file format is a mixed media page layout language and comprises a standard generalized mark-up language.

2. A network message storage and delivery system, comprising:

means for receiving an incoming call and for detecting an address signal associated with said incoming call, said address signal associated with a user of said message storage and delivery system;

means for receiving a message accompanied with said address signal, said message being in a first file format;

means for converting said message from said first file format to a second file format;

means for storing said message in said second file format in a storage area;

means for receiving a request from said user for said message and for retrieving said message from said storage area; and

means for transmitting at least a portion of said message in said second file format to said user over a transmission link;

wherein said portion of said message is transmitted to said user over the network, said second file format is a mixed media page layout language, and said network comprises the Internet.

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1 3. A network message storage and delivery system, comprising:

2 a central processor for receiving an incoming call, for detecting an address  
3 signal on said incoming call, for detecting a message on said incoming call, and for  
4 placing said message in a storage area, said address signal being associated with a  
5 user of said network message storage and delivery system;

6 a network server for receiving said message from said storage area, for  
7 converting said message into a mixed media page layout language, and for placing  
8 said message in said storage area;

9 wherein when said network server receives a request from said user over said  
10 network, said network server transmits at least a portion of said message over said  
11 network to said user over a transmission link and wherein said network comprises the  
12 Internet and said network server comprises an Internet server.

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1       4.     A method of storing and delivering a message for a user, comprising  
2     the steps of:  
3         receiving an incoming call and detecting an address signal associated with said  
4     incoming call, said address signal associated with a user;  
5         receiving a message associated with said address signal, said message being in  
6     a first file format;  
7         converting said message from said first file format to a second file format;  
8         storing said message in said second file format in a storage area;  
9         receiving a request from said user for said message and retrieving said  
10    message from said storage area; and  
11         transmitting at least a portion of said message in said second file format to said  
12    user over a transmission link;  
13         wherein said step of transmitting occurs over a network, said step of  
14    converting said message converts said message into a mixed media page layout  
15    language, and said step of transmitting occurs over the Internet.



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1           5.     A system for receiving and storing a message signal directed to an  
2     intended recipient and for relaying the message signal to a computer, comprising:  
3           a telephone interface for receiving an incoming call from a public switched  
4     telephone network, the incoming call including the message signal;  
5           a central processor for receiving the message signal from the telephone  
6     interface and for storing the message signal in a storage medium;  
7           a hyper-text transfer protocol daemon for receiving a request for the message  
8     signal from the computer and for forwarding the request to a network server, the  
9     request from the computer being formatted in a hyper-text transfer protocol; and  
10           the network server, in response to receiving the request from the hyper-text  
11     transfer protocol daemon, forwarding at least a part of the message signal to the  
12     hyper-text transfer protocol daemon;  
13           wherein the hyper-text transfer protocol daemon transmits at least part of the  
14     message signal to the computer.

1           6.     The system as set forth in claim 5, wherein the network server converts  
2     the message signal from a first file format into a standard generalized mark-up  
3     language.

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1           7.     The system as set forth in claim 5, wherein the central processor  
2     converts the message signal from a first file format into a standard generalized mark-  
3     up language.

1           8.     The system as set forth in claim 5, wherein the hyper-text transfer  
2     protocol daemon transmits the message in a hyper-text mark-up language.

1           9.     The system as set forth in claim 5, wherein the hyper-text transfer  
2     protocol daemon transmits the message in a hand-held device mark-up language.

1           10.    The system as set forth in claim 5, wherein the hyper-text transfer  
2     protocol daemon transmits the message in an extensible mark-up language.

1           11.    The system as set forth in claim 5, wherein the hyper-text transfer  
2     protocol daemon transmits the message in a virtual reality mark-up language.

1           12.    The system as set forth in claim 5, wherein the hyper-text transfer  
2     protocol daemon receives the request from the computer through the Internet.

1011-05-000-0001011

1           13.    The system as set forth in claim 5, wherein the hyper-text transfer  
2           protocol daemon receives the request from the computer through an intranet.

1           14.    The system as set forth in claim 5, wherein the telephone interface  
2           receives an address signal as part of the incoming call and the central processor stores  
3           the message signal in a directory associated with that address signal.

1           15.    The system as set forth in claim 5, wherein the message signal  
2           comprises a facsimile transmission.

1           16.    The system as set forth in claim 5, wherein the message signal  
2           comprises a voice message.

1           17.    The system as set forth in claim 5, wherein the message signal  
2           comprises a data file.

\*\*\*\*\*

1           18.    The system as set forth in claim 5, wherein the request sent from the  
2   computer to the hyper-text transfer protocol daemon comprises a search query  
3   specifying at least one search parameter for a desired search, the hyper-text transfer  
4   protocol daemon transfers the search query to the network server, the network server  
5   performs the desired search by identifying all message signals satisfying the at least  
6   one search parameter, and the hyper-text transfer protocol daemon sends results of the  
7   desired search to the computer.

1           19.    The system as set forth in claim 18, wherein the central processor stores  
2   a data entry for each message signal.

1           20.    The system as set forth in claim 19, wherein the data entry comprises a  
2   plurality of fields for identifying the message signal.

1           21.    The system as set forth in claim 19, wherein the central processor stores  
2   the data entry in a relational database.

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1        22.     The system as set forth in claim 18, wherein the central processor  
2        returns a listing of all message signals contained within the desired search to the  
3        hyper-text transfer protocol daemon and the hyper-text transfer protocol daemon  
4        sends the list to the computer.

1           23.     A method for receiving and storing a message signal directed to an  
2     intended recipient and for relaying the message signal to a computer, comprising the  
3     steps of:

4 receiving an incoming call from a public switched telephone network, the  
5 incoming call including the message signal;

6 storing the message signal in a storage medium;

7 receiving, at a hyper-text transfer protocol daemon, a request for the message  
8 signal from the computer and forwarding the request to a network server;

9 forwarding at least a part of the message signal from the network server to the  
10 hyper-text transfer protocol daemon; and

11 transmitting at least part of the message signal from the hyper-text transfer  
12 protocol deamon to the computer.

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1       24.    The method as set forth in claim 23, further comprising a step of  
2    converting the request from a first file format into a standard generalized mark-up  
3    language.

1       25.    The method as set forth in claim 23, wherein the step of receiving the  
2    request comprises a step of receiving the request in a standard generalized mark-up  
3    language.

1       26.    The method as set forth in claim 23, wherein the step of receiving the  
2    request comprises a step of receiving the request in a hyper-text mark-up language.

1       27.    The method as set forth in claim 23, wherein the step of receiving the  
2    request comprises a step of receiving the request in a hand-held mark-up language.

1       28.    The method as set forth in claim 23, wherein the step of receiving the  
2    request comprises a step of receiving the request in an extensible mark-up language.

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1        29.     The method as set forth in claim 23, wherein the step of receiving the  
2        request comprises a step of receiving the request in a virtual reality mark-up language.

1 30. The method as set forth in claim 23, wherein the step of receiving the  
2 call comprises a step of receiving a facsimile transmission..

1           31.     The method as set forth in claim 23, wherein the step of receiving the  
2     call comprises a step of receiving a voice message.

1 32. The method as set forth in claim 23, wherein the step of receiving the  
2 call comprises a step of receiving a data file.

1           33.     The method as set forth in claim 23, wherein the step of receiving the  
2     request comprises a step of receiving the request through the Internet.

1           34.     The method as set forth in claim 23, wherein the step of receiving the  
2     request comprises a step of receiving the request through an intranet.

*[Faint, illegible handwritten notes]*

1                    35.     The method as set forth in claim 23, wherein the step of receiving the  
2     request comprises a step of receiving a search query from the computer with the  
3     search query specifying at least one search parameter for a desired search and the  
4     method further comprises the steps of performing the desired search through the  
5     storage and returning results of the desired search to the computer.

1            36.    The method as set forth in claim 35, further comprising a step of storing  
2            a data entry in the storage for each message signal received.

1            37.    The method as set forth in claim 35, wherein the step of returning the  
2            results comprises a step of returning a listing of all message signals contained within  
3            the desired search.

1            38.    The method as set forth in claim 35, further comprising a step of saving  
2    the results of the desired search in the storage.



39. A computer-readable medium for storing software for use in storing and delivering a message signal, the software for use in performing the steps of:

- receiving an incoming call from a public switched telephone network, the incoming call including the message signal;
- storing the message signal in a storage medium;
- receiving, at a hyper-text transfer protocol daemon, a request for the message signal from the computer and forwarding the request to a network server;
- forwarding at least a part of the message signal from the network server to the hyper-text transfer protocol daemon; and
- transmitting at least part of the message signal from the hyper-text transfer protocol daemon to the computer

10456789 00000000

### ABSTRACT

A Message Storage and Deliver System (MSDS) is connected to the public switched telephone network (PSTN) and receives incoming calls with these calls being facsimile, voice, or data transmissions. The MSDS detects the type of call and stores the message signal in a database. The MSDS is also connected to the Internet and has a hyper-text transfer protocol daemon (HTTPD) for receiving requests from users. The HTTPD forwards requests for certain files or messages to a network server which transmits at least part of the message to the HTTPD and then to the user. In addition to requests for certain documents, the HTTPD may also receive a request in the form of a search query. The search query is forwarded from the HTTPD to an application program for conducting the search of the database. The results of the search are forwarded through the HTTPD to the user. The user may then select one or more files or messages from the search results and may save the search for later reference.

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Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing Messages  
Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 1 of 18

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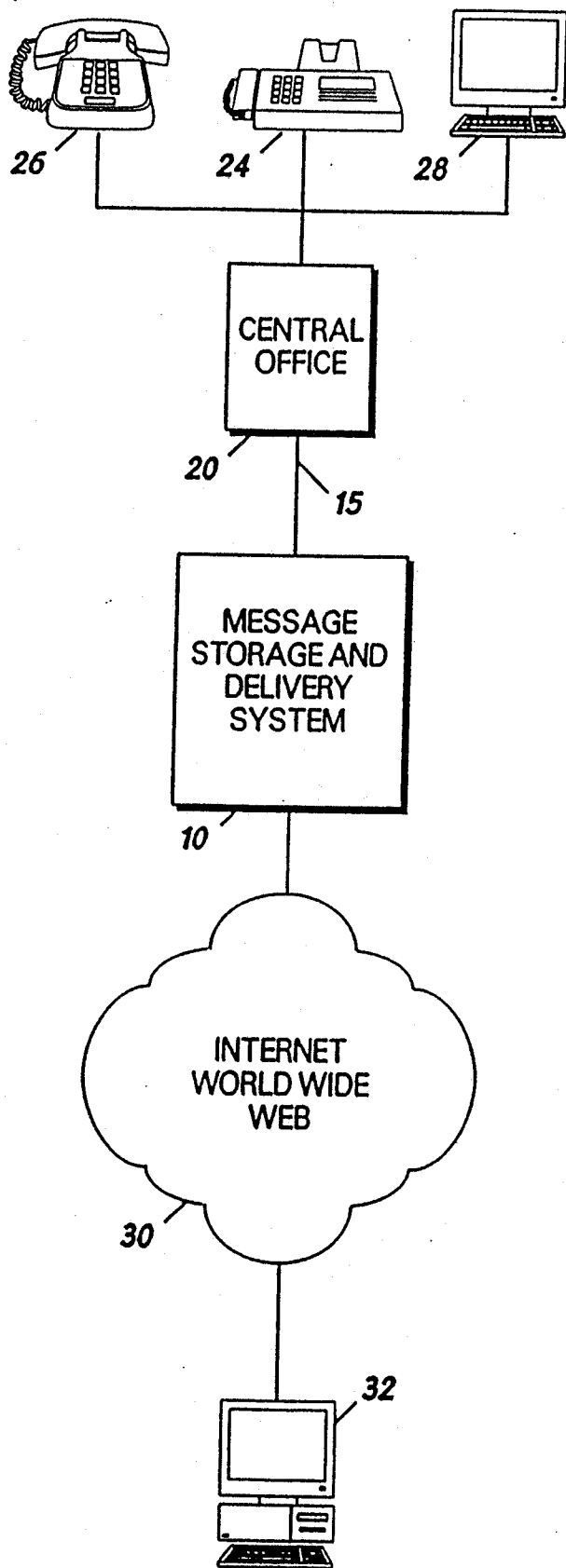


FIG 1

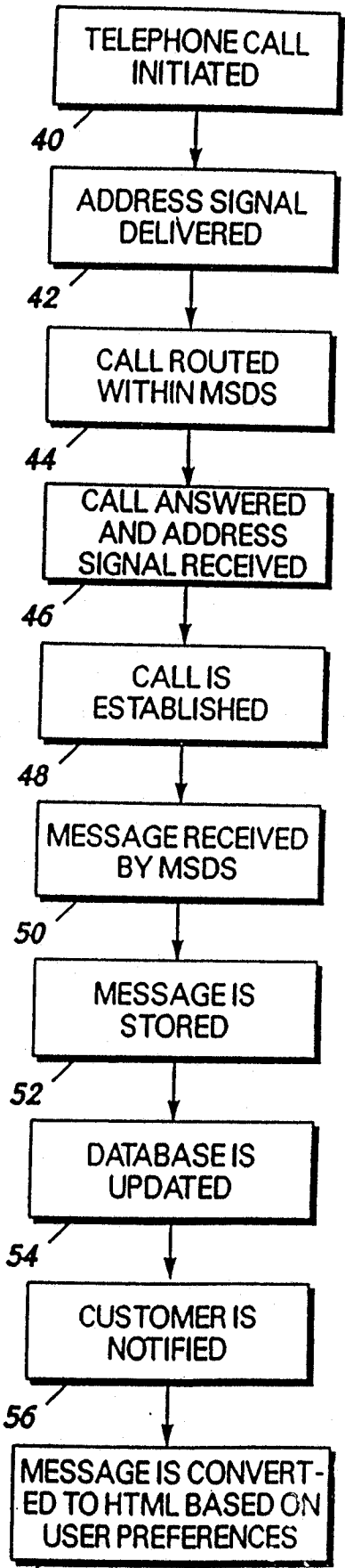
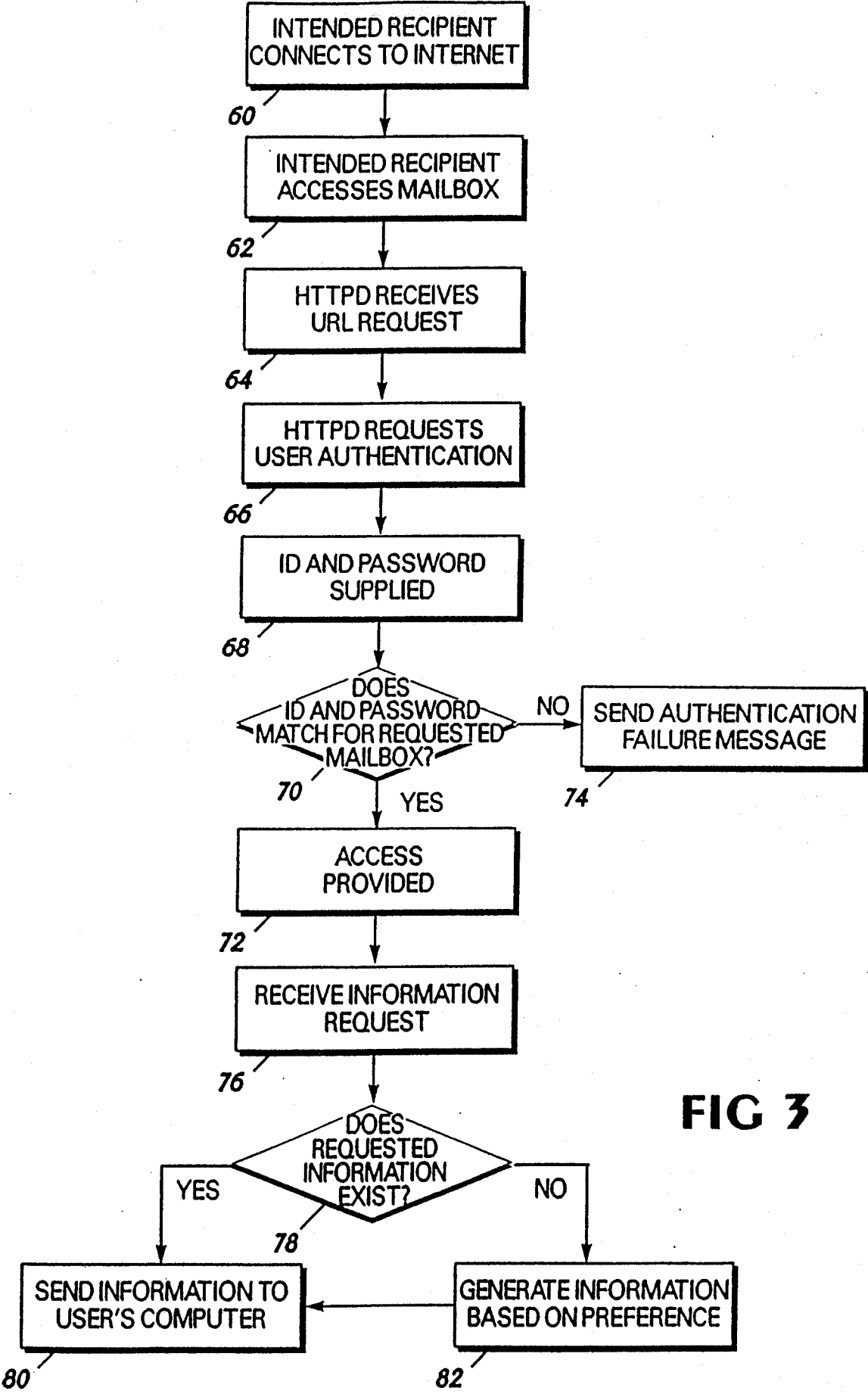


FIG 2

Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing Messages  
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10435799 051203



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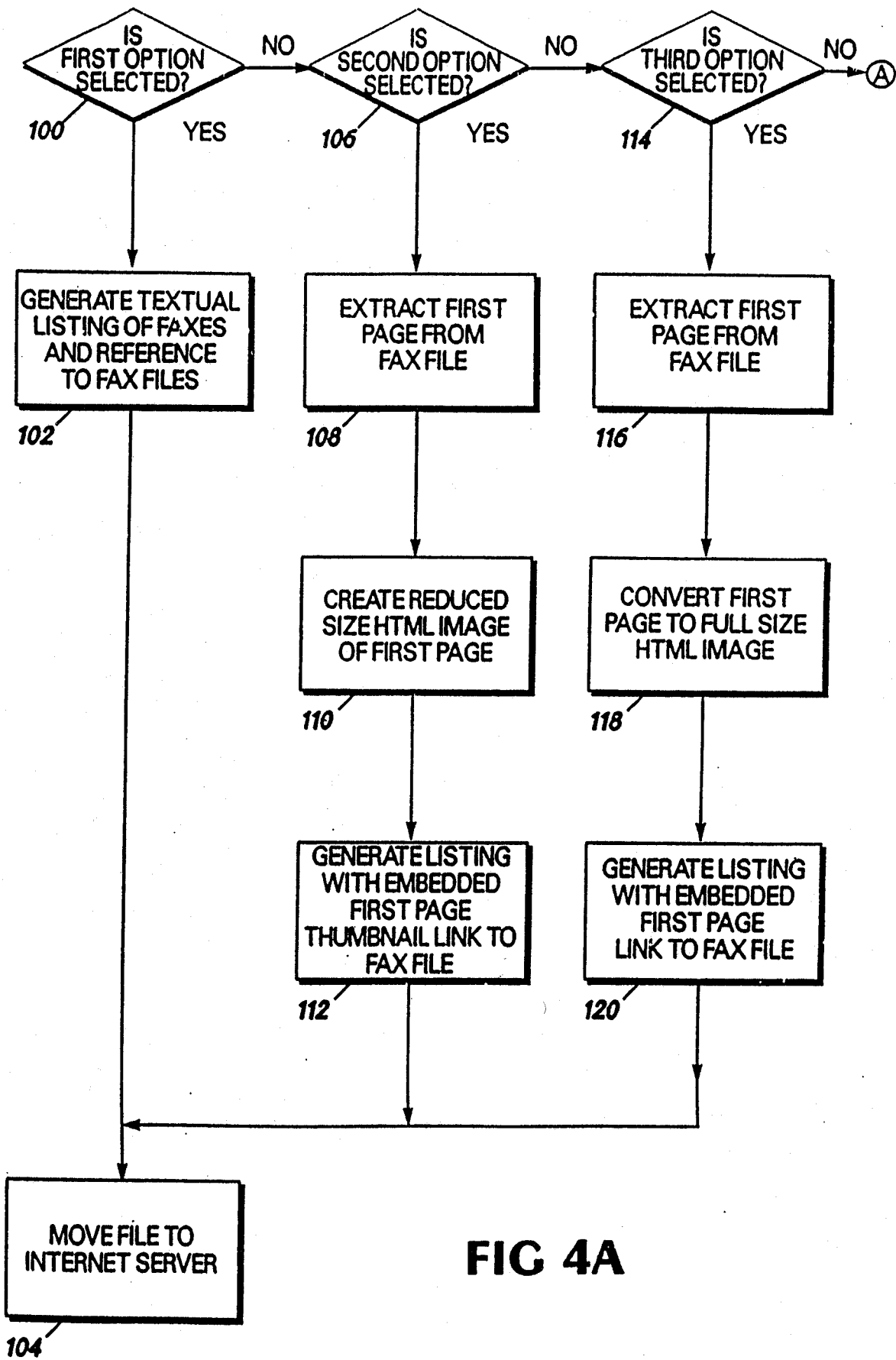


FIG 4A

Inventor: Charles R. Bobo, II  
Serial No.  
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Title: Systems and Methods for Storing, Delivering, and Managing  
Messages  
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Phone: 404.815.6530  
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104285795-000000

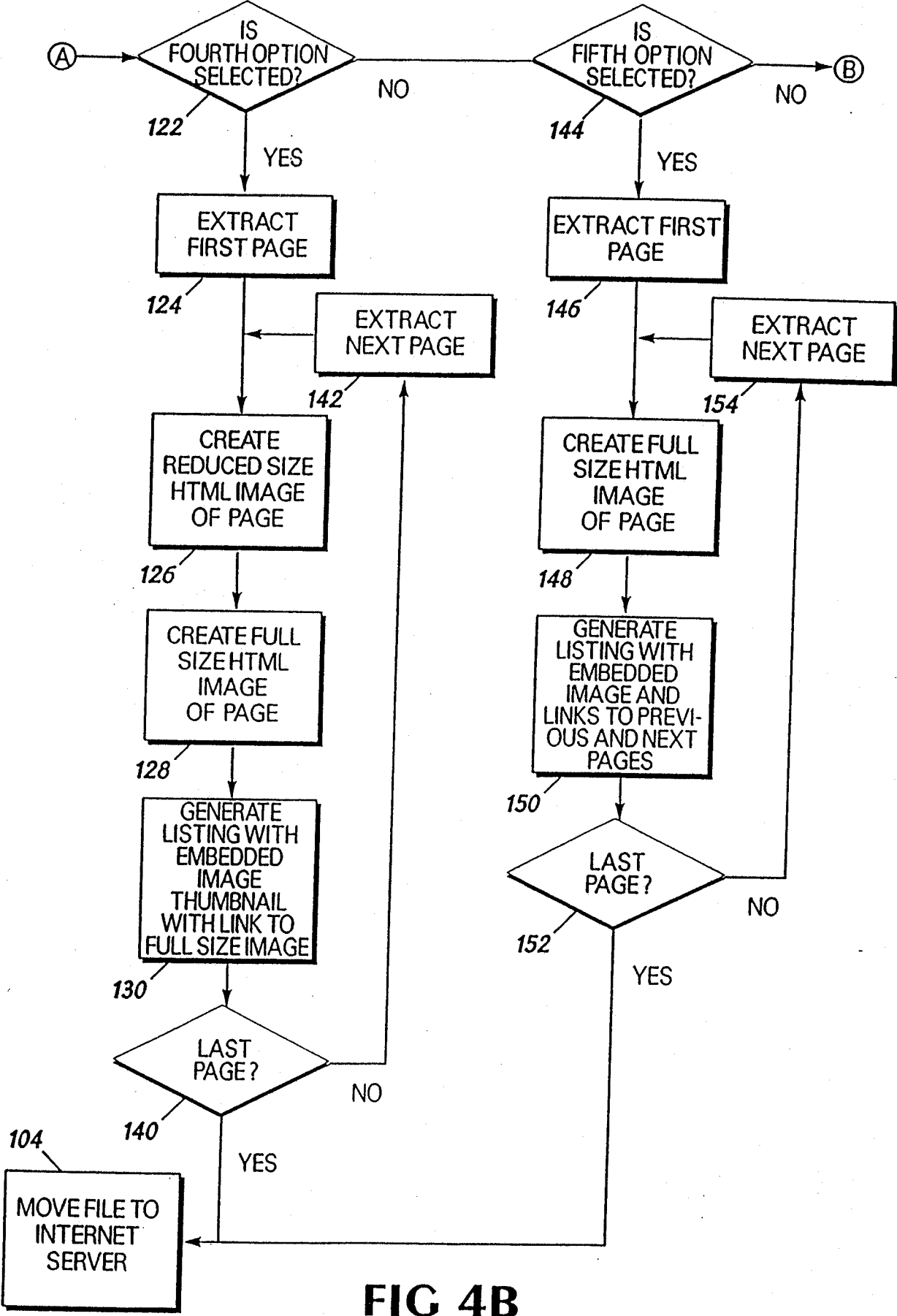


FIG 4B

Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing Messages  
Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 5 of 18

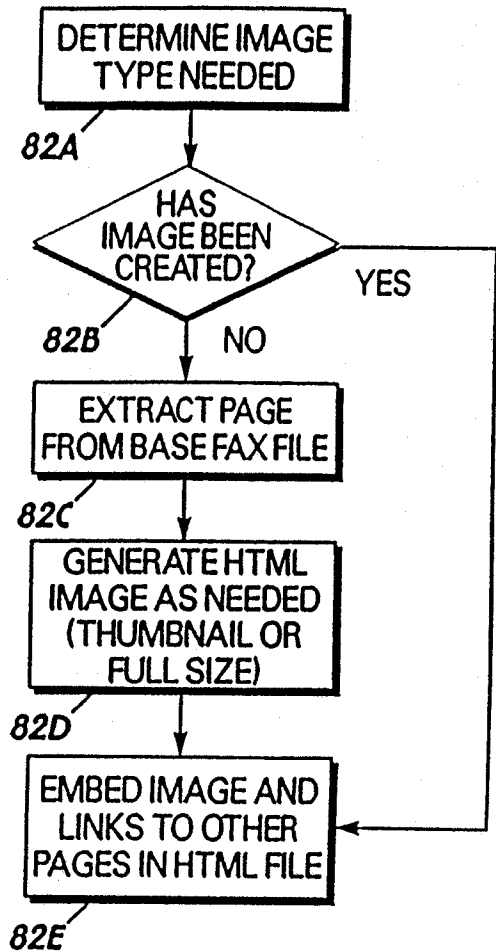


FIG 5

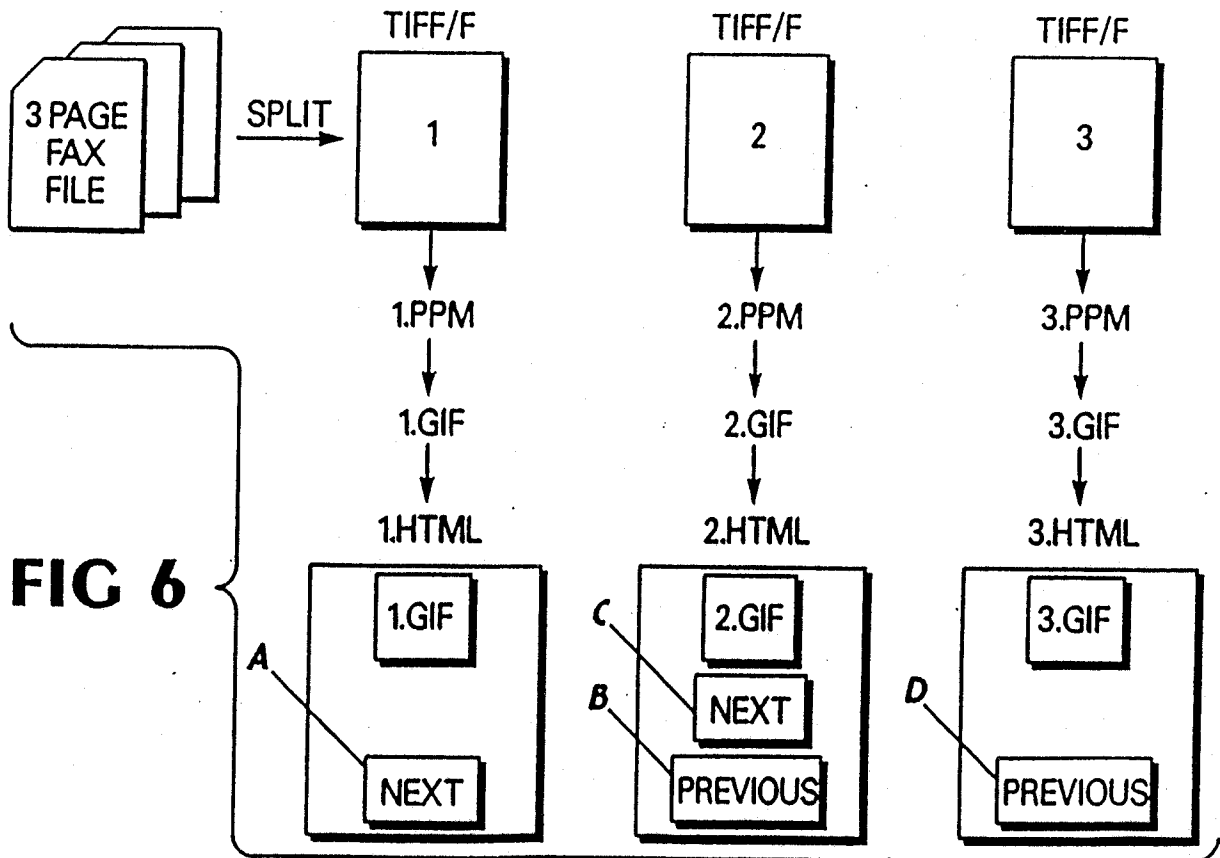


FIG 6

Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing Messages  
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Attorney: Geoff L. Sutcliffe  
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Received on May 31, 1995 at 1:58 PM  
Page 1 of 3

NetOffice, Inc.

From: Charles R. Bobo, II.  
Pages: 3  
Date: May 31, 1995

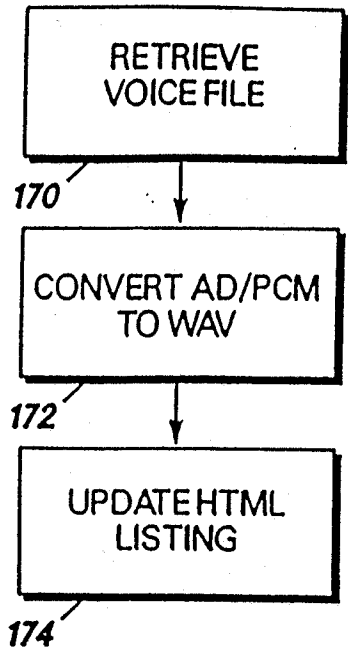


FIG 8

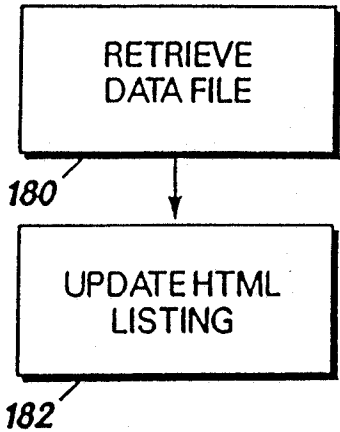


FIG 9

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FIG 7



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Filed: May 12, 2003  
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Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 7 of 18

10435793 06 12 03

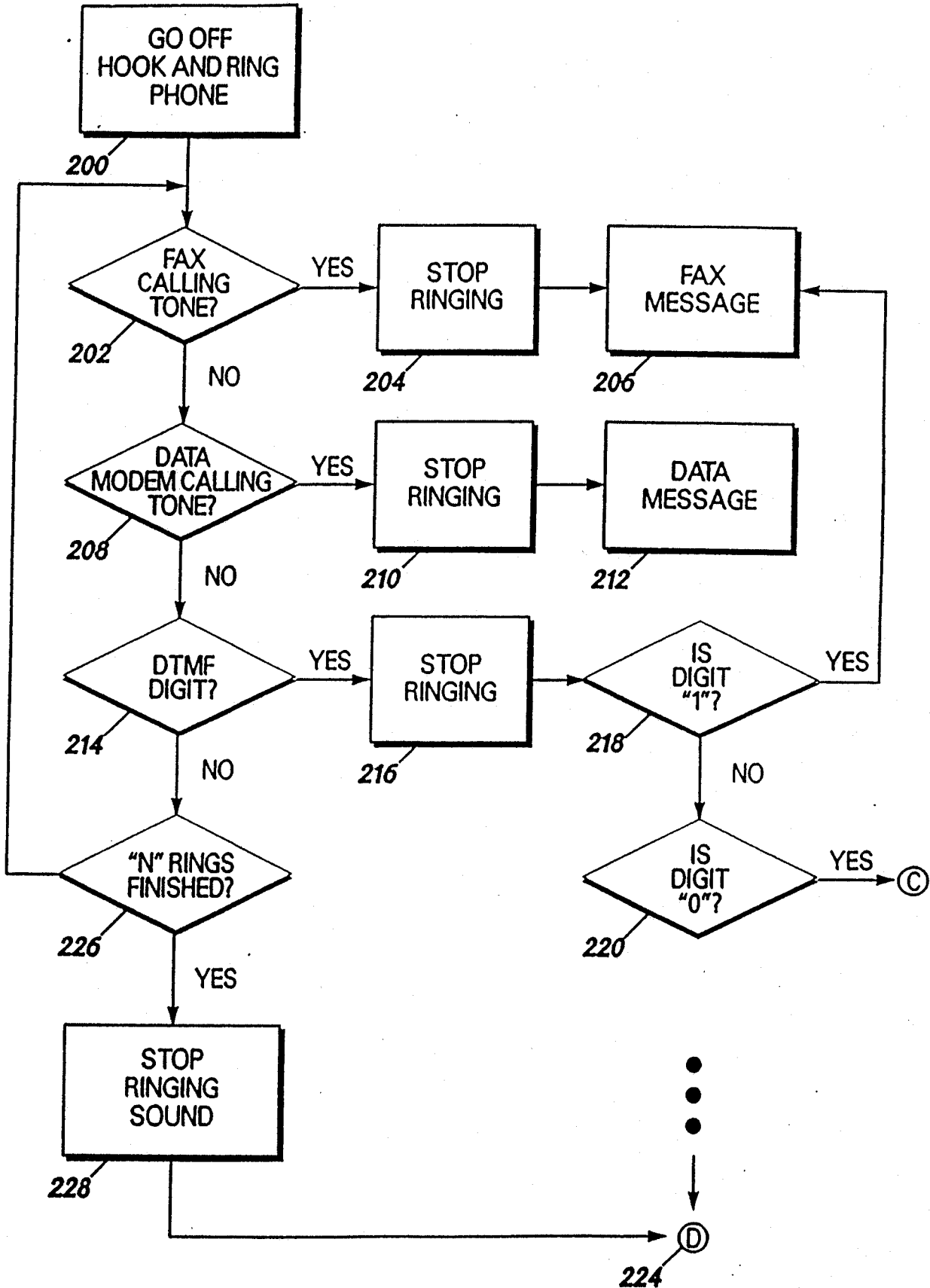


FIG 10

Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing Messages  
Attorney Docket: 10172/285952  
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10436799 051203

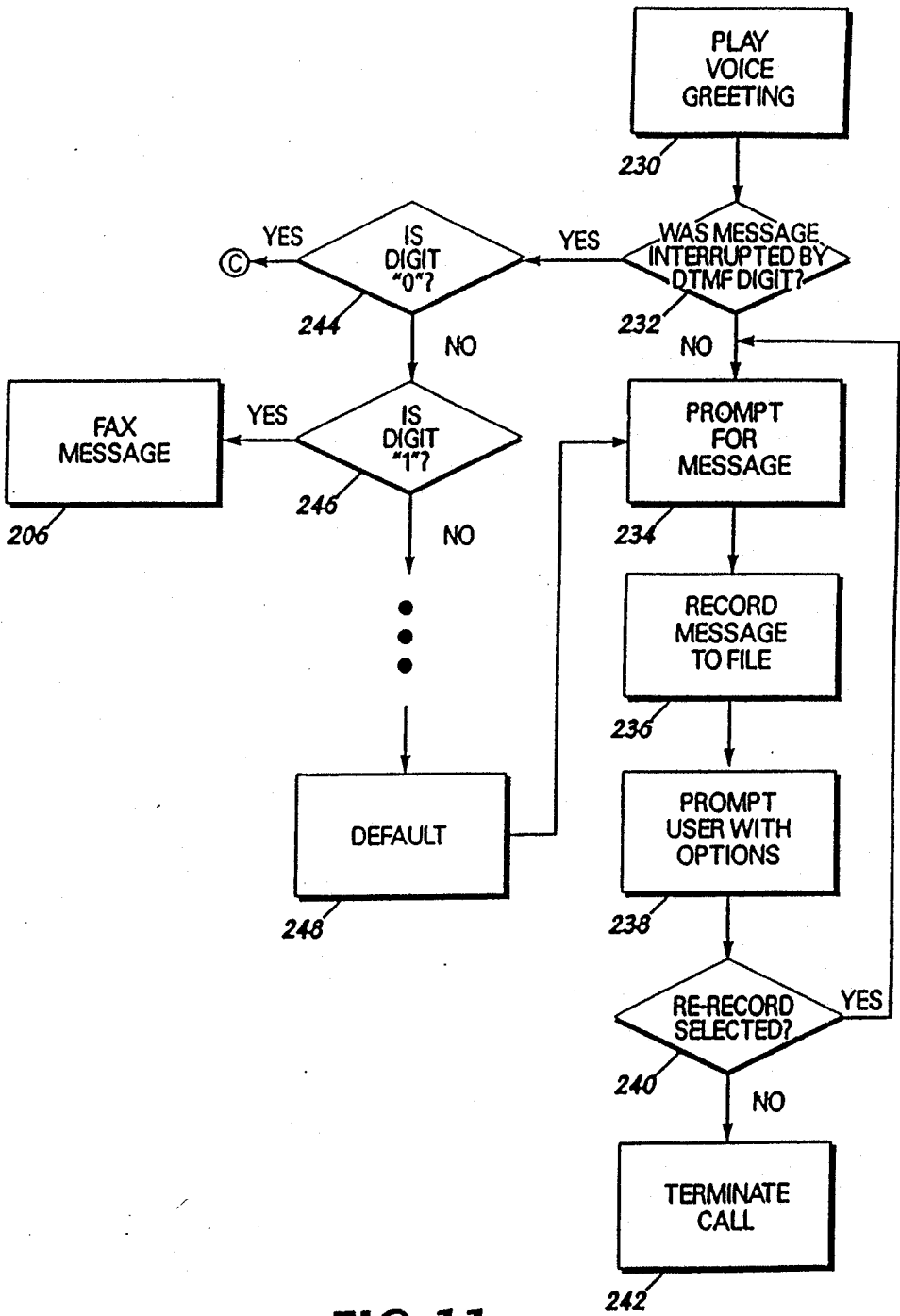


FIG 11

INVENTOR: CHARLES K. BODO, II

Serial No.

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Title: Systems and Methods for Storing, Delivering, and Managing

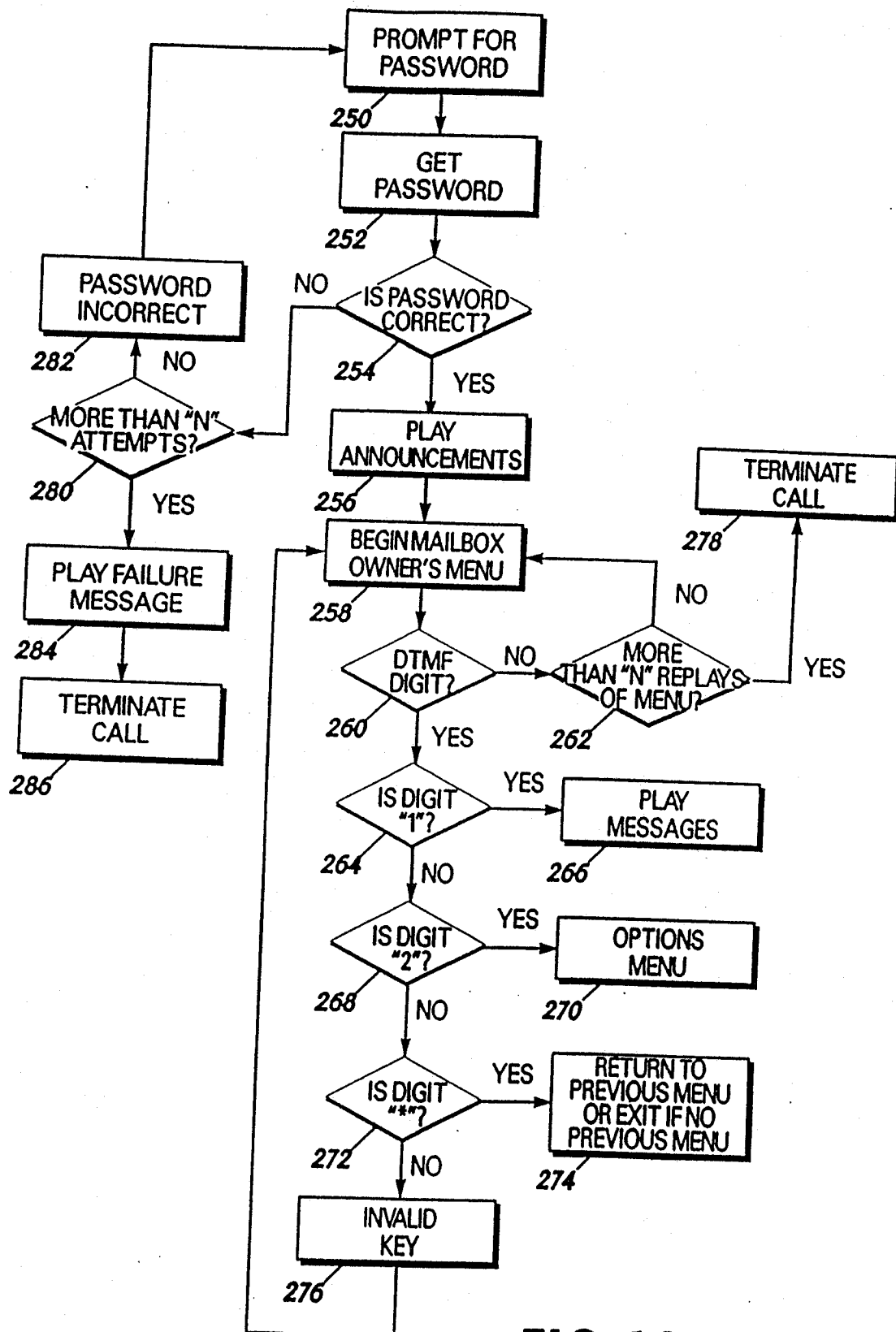
## Messages

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Sheet 9 of 18



**FIG 12**

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Attorney: Geoff L. Sutcliffe  
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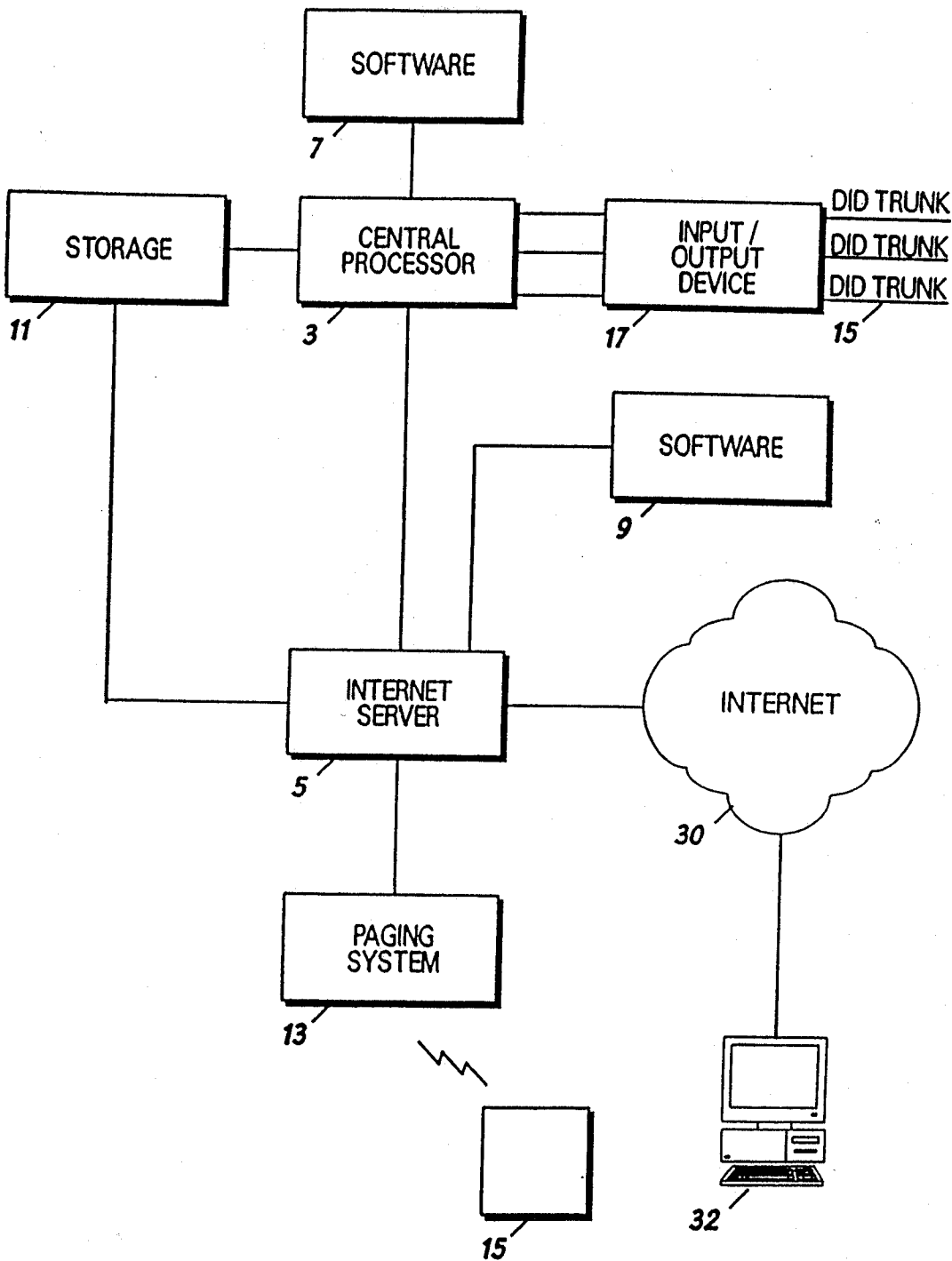


FIG 13

inventor: Charles K. Bono, II  
Serial No.  
Filed: May 12, 2003  
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Attorney: Geoff L. Sutcliffe  
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10436793 051203

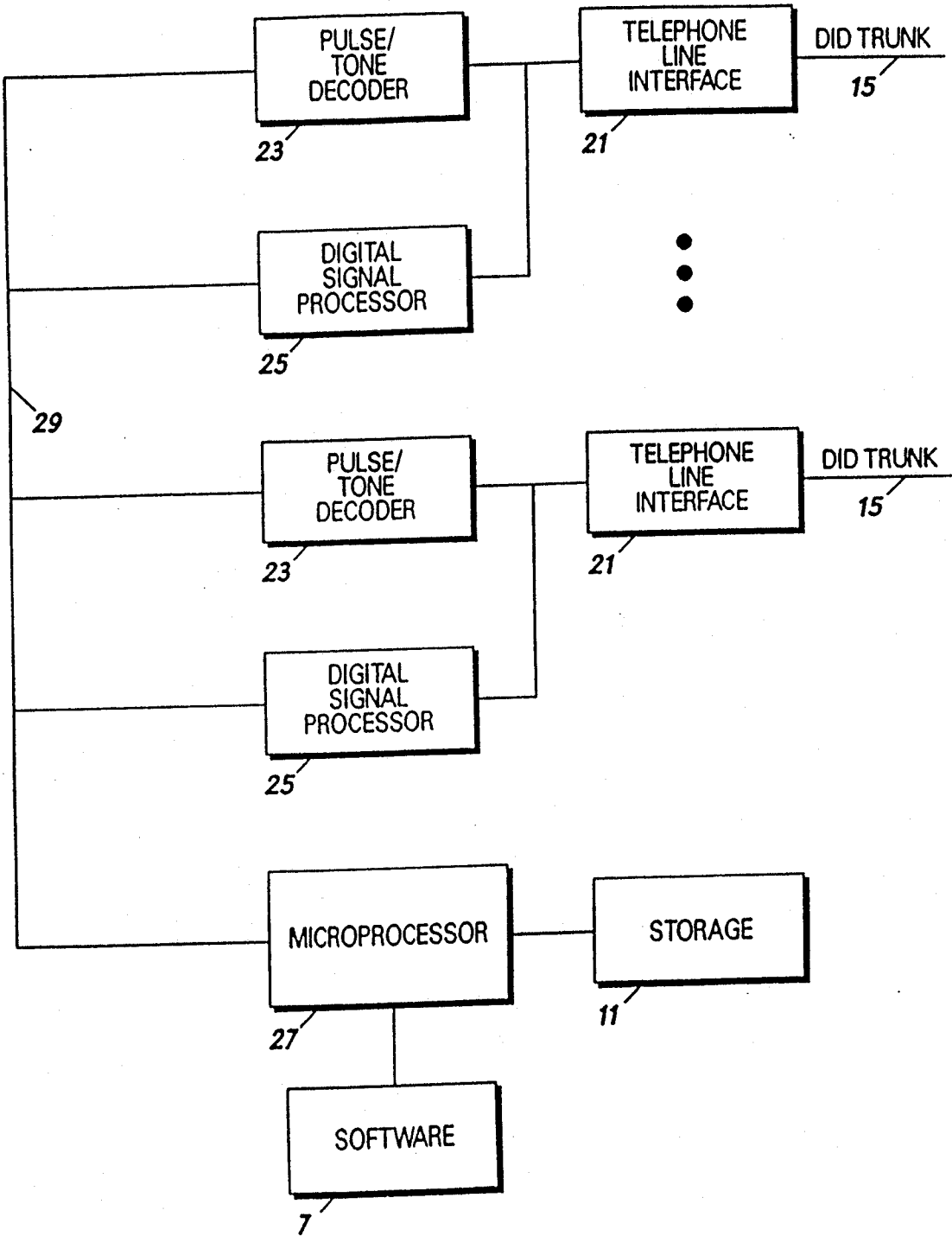
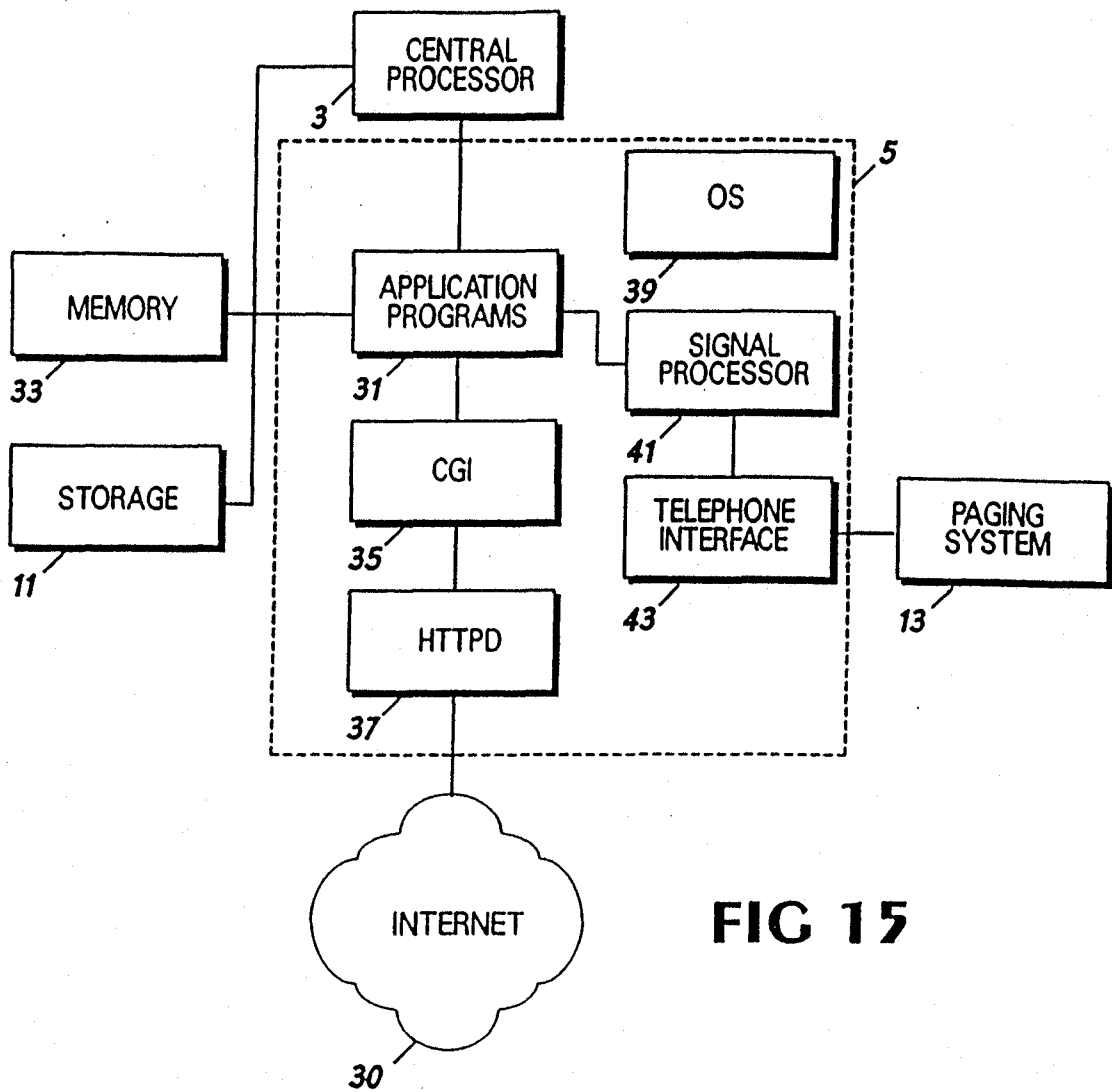


FIG 14

Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
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Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 12 of 18

10456799 051003



INDIVIDUAL APPLICATION PROGRAMS
COMMON GATEWAY INTERFACE (CGI)
HTTPD
INTERNET DEAMON (INETD)
OPERATING SYSTEM (OS)
TCP/IP

FIG 16A

PREFORMATTED HTML FILE
HTTPD
INETD
OS
TCP/IP

FIG 16B

Inventor: Charles R. Bobo, II

Serial No.

Filed: May 12, 2003

Title: Systems and Methods for Storing, Delivering, and Managing Messages

## Messages

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Attorney: Geoff L. Sutcliffe

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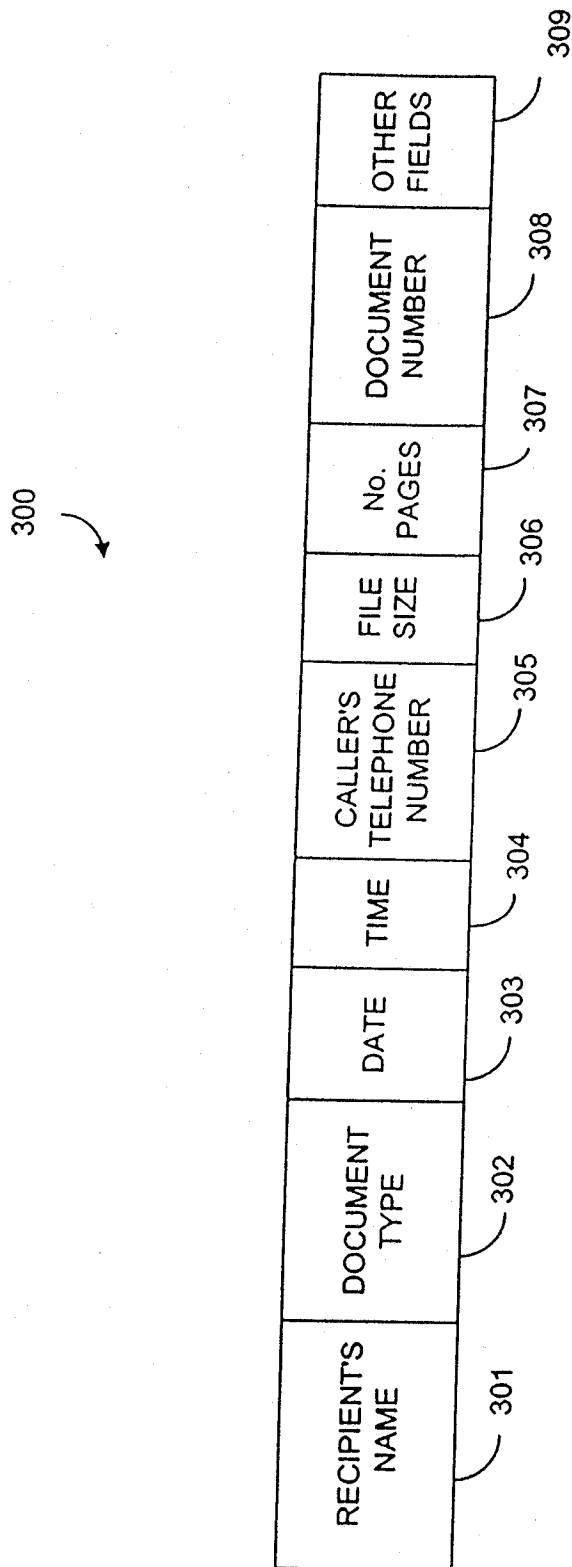


FIG. 17

Inventor: Charles R. Bodo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing Messages  
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Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
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10436793 00000000

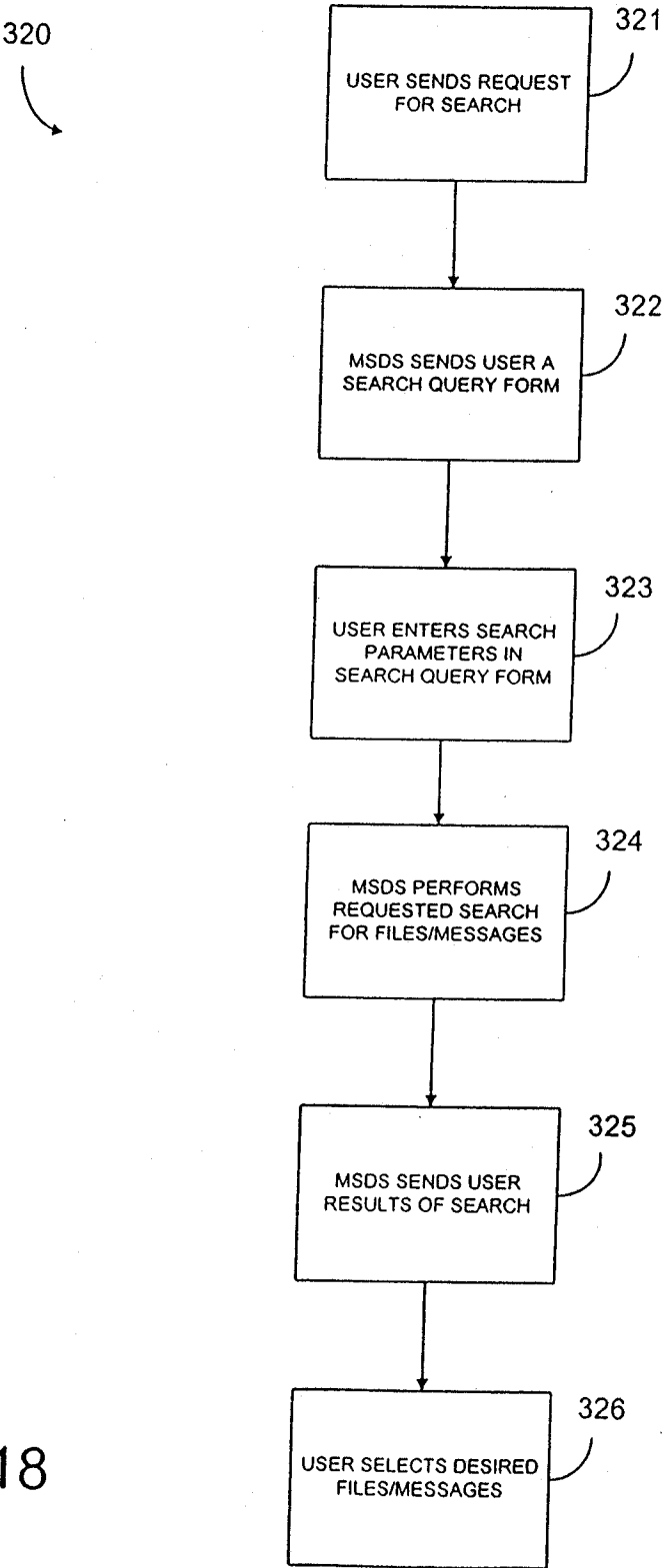


FIG. 18



Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
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Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
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SEARCH QUERY

RECIPIENT'S NAME:

DOCUMENT TYPE:

DATE:

TIME:

CALLING NO.:

FILE SIZE:

NO. PAGES:

DOCUMENT NO.:

OTHER FIELD:

SEARCH

STORED

SEARCH GROUP

RECENT FILES

HELP

FIG. 19

Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing  
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Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 16 of 18

SEARCH QUERY

RECIPIENT'S NAME:

DOCUMENT TYPE:

FACSIMILE

DATE:

TIME:

CALLING NO.:

(404) 249-6801

FILE SIZE:

NO. PAGES:

DOCUMENT NO.:

OTHER FIELD:

SEARCH

RECENT FILES

STORED SEARCHES

HELP

FIG. 20

Inventor: Charles K. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing  
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Attorney: Geoff L. Sutcliffe  
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Sheet 17 of 18

104667933 on 1203

SEARCH  
RESULTS

- 1. Document No. 11: Facsimile from (404) 249-6801 to Jane Doe on May 31, 1995, 3 Pages
- 2. Document No. 243: Facsimile from (404) 249-6801 to Jane Doe on July 16, 1995, 21 Pages
- 3. Document No. 1002: Facsimile from (404) 249-6801 to Jane Doe on January 1, 1996, 10 Pages

SAVE SEARCH AS:

CHARLES R. BOBO FACSIMILES

HELP

FIG. 21

Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing  
Messages  
Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 18 of 18

10455285952

## STORED SEARCHES

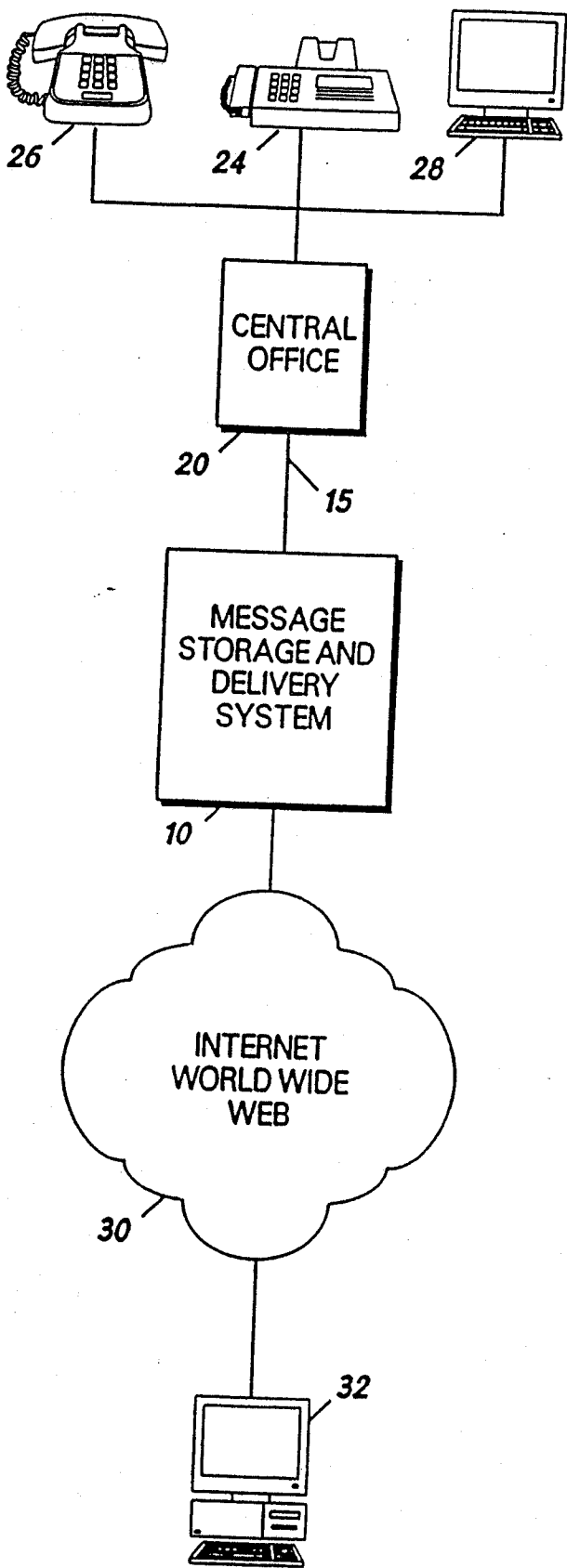
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2. CHARLES R. BOBO VOICE MESSAGES
3. DATA TRANSFERS FROM 01-01-96 TO 6-01-96 TO  
JANE DOE

HELP

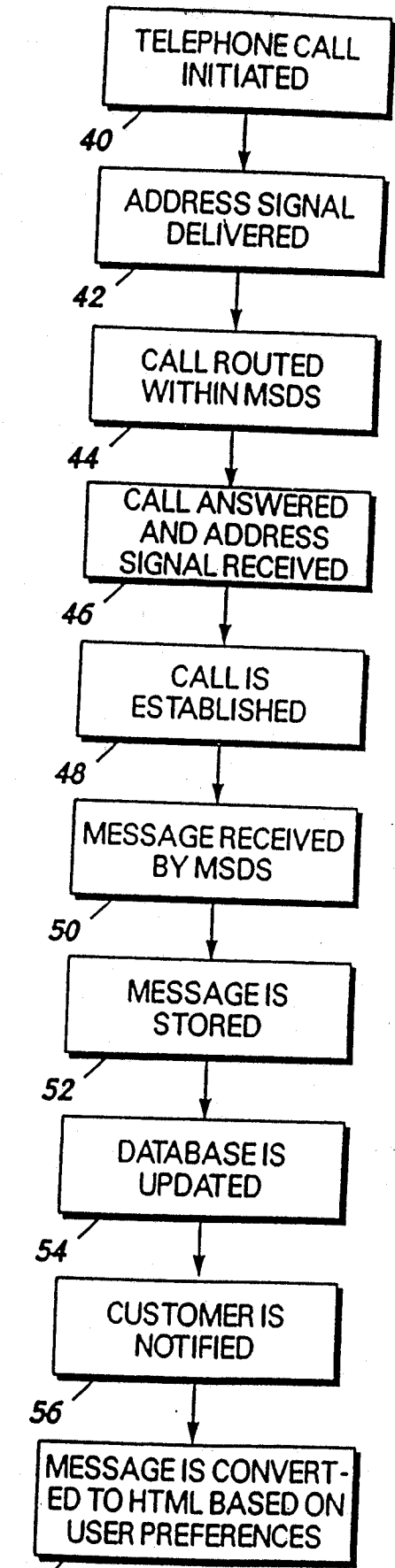
FIG. 22

**PRINT OF DRAWINGS  
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Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing Messages  
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Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
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**FIG 1**



**FIG 2**

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Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 2 of 18

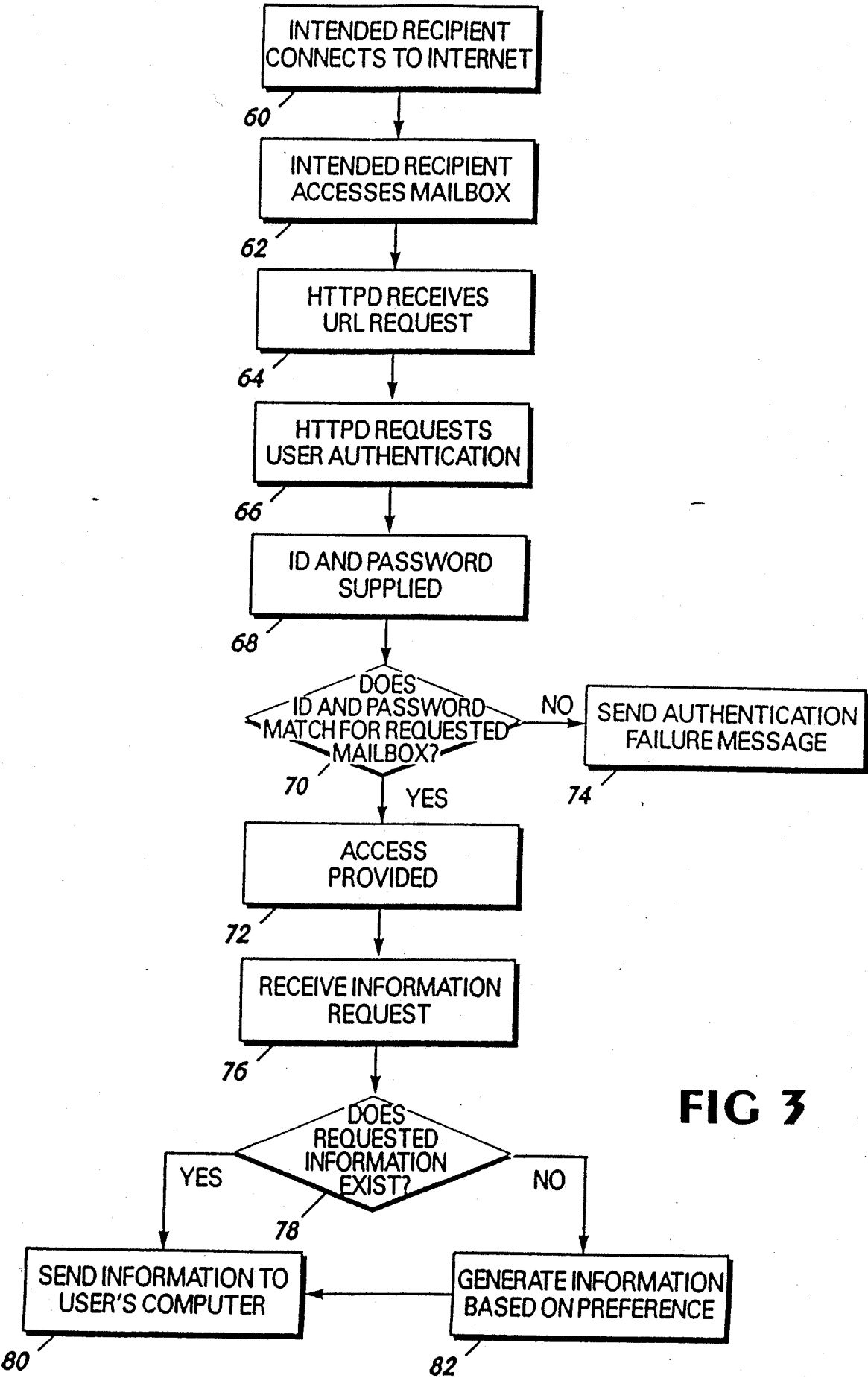
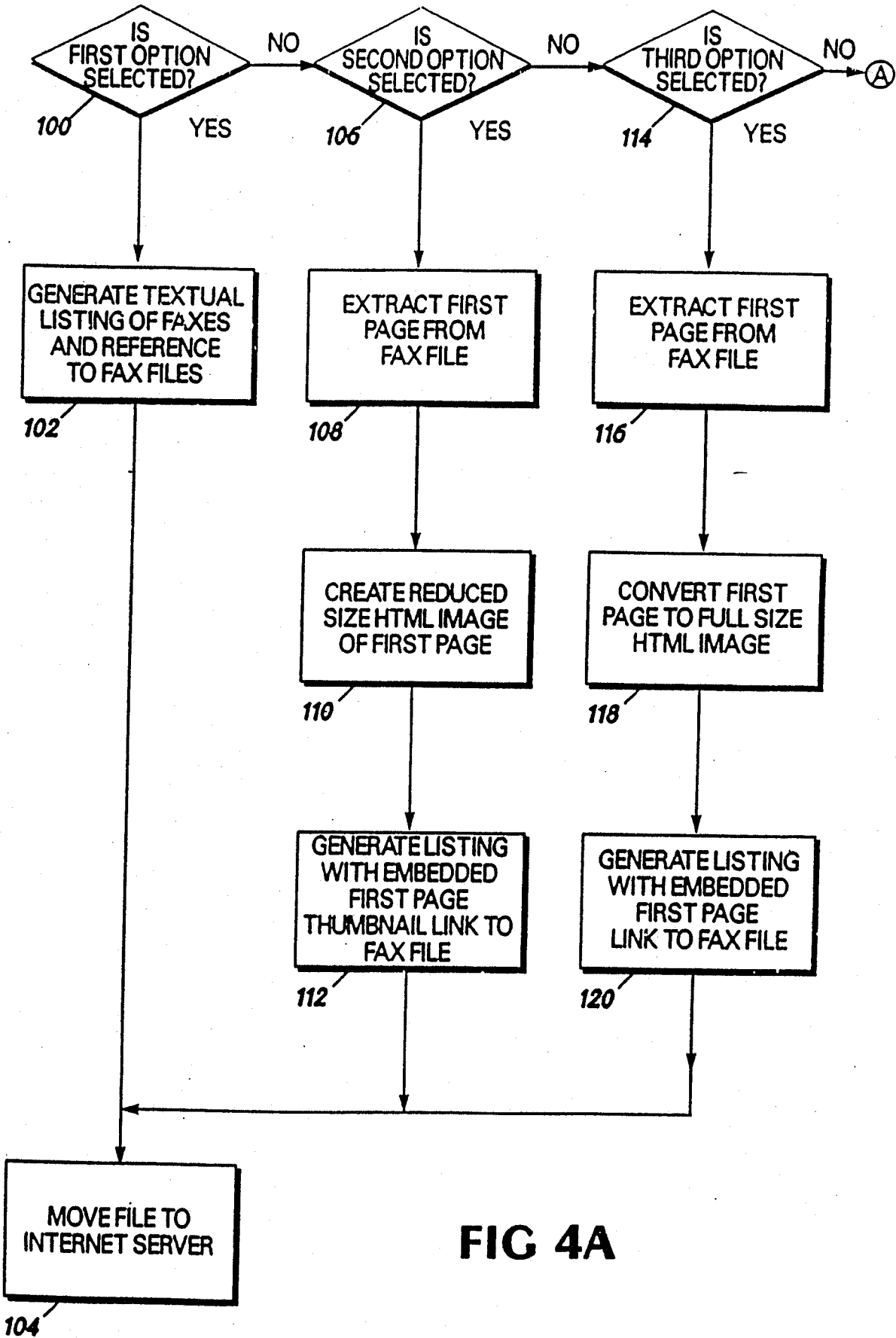


FIG 3

PRINT OF DRAWINGS  
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Messages  
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Sheet 3 of 18



Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing  
Messages  
Attorney Docket: 10172/285952  
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104 106 108 110 112 114 116 118 120 122 124 126 128 130 132 134 136 138 140 142 144 146 148 150 152 154 156 158 160 162 164 166 168 170 172 174 176 178 180 182 184 186 188 190 192 194 196 198 200 202 204 206 208 210 212 214 216 218 220 222 224 226 228 230 232 234 236 238 240 242 244 246 248 250 252 254 256 258 260 262 264 266 268 270 272 274 276 278 280 282 284 286 288 290 292 294 296 298 300 302 304 306 308 310 312 314 316 318 320 322 324 326 328 330 332 334 336 338 340 342 344 346 348 350 352 354 356 358 360 362 364 366 368 370 372 374 376 378 380 382 384 386 388 390 392 394 396 398 400 402 404 406 408 410 412 414 416 418 420 422 424 426 428 430 432 434 436 438 440 442 444 446 448 450 452 454 456 458 460 462 464 466 468 470 472 474 476 478 480 482 484 486 488 490 492 494 496 498 500 502 504 506 508 510 512 514 516 518 520 522 524 526 528 530 532 534 536 538 540 542 544 546 548 550 552 554 556 558 560 562 564 566 568 570 572 574 576 578 580 582 584 586 588 590 592 594 596 598 600 602 604 606 608 610 612 614 616 618 620 622 624 626 628 630 632 634 636 638 640 642 644 646 648 650 652 654 656 658 660 662 664 666 668 670 672 674 676 678 680 682 684 686 688 690 692 694 696 698 700 702 704 706 708 710 712 714 716 718 720 722 724 726 728 730 732 734 736 738 740 742 744 746 748 750 752 754 756 758 760 762 764 766 768 770 772 774 776 778 780 782 784 786 788 790 792 794 796 798 800 802 804 806 808 810 812 814 816 818 820 822 824 826 828 830 832 834 836 838 840 842 844 846 848 850 852 854 856 858 860 862 864 866 868 870 872 874 876 878 880 882 884 886 888 890 892 894 896 898 900 902 904 906 908 910 912 914 916 918 920 922 924 926 928 930 932 934 936 938 940 942 944 946 948 950 952 954 956 958 960 962 964 966 968 970 972 974 976 978 980 982 984 986 988 990 992 994 996 998 1000

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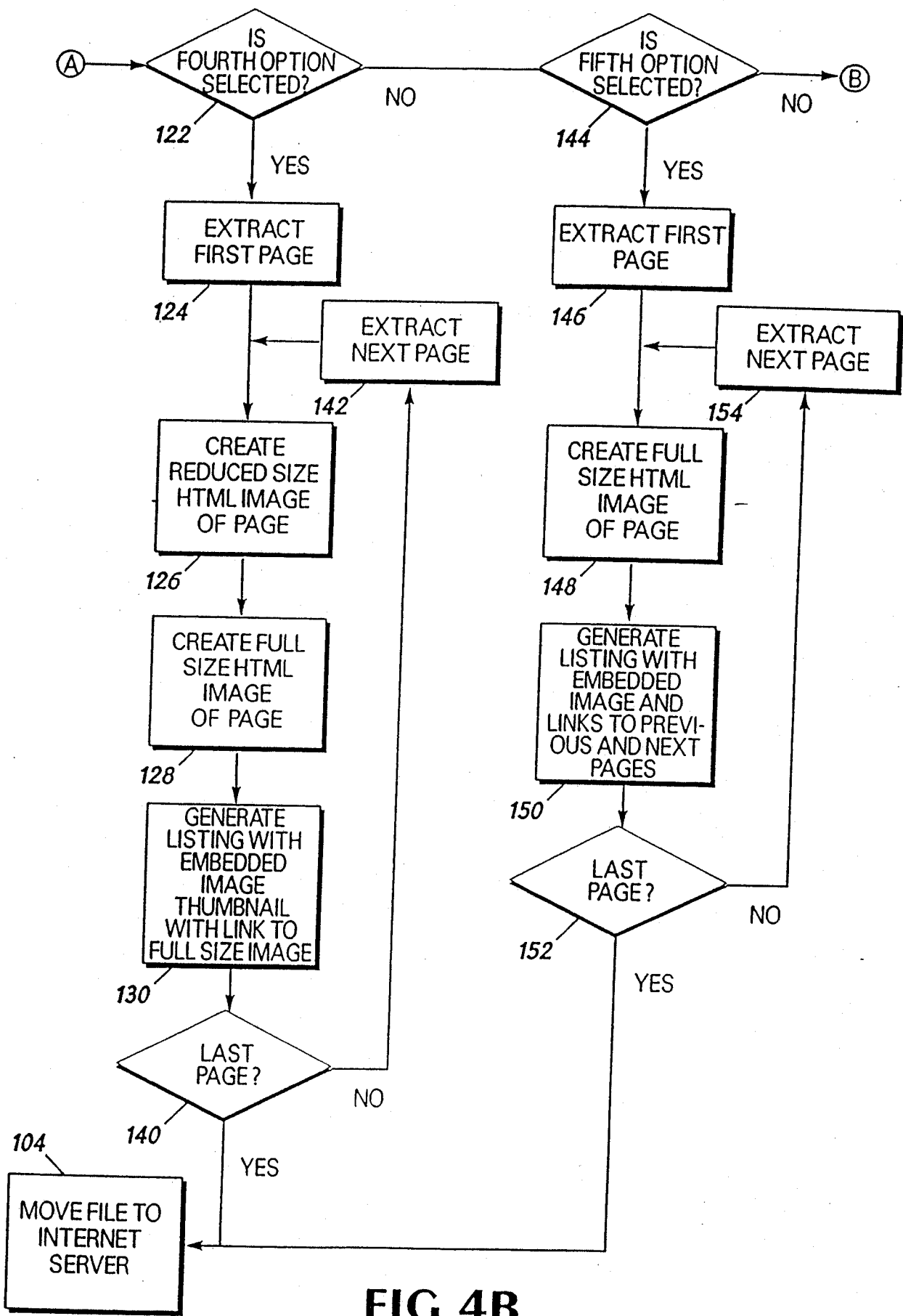
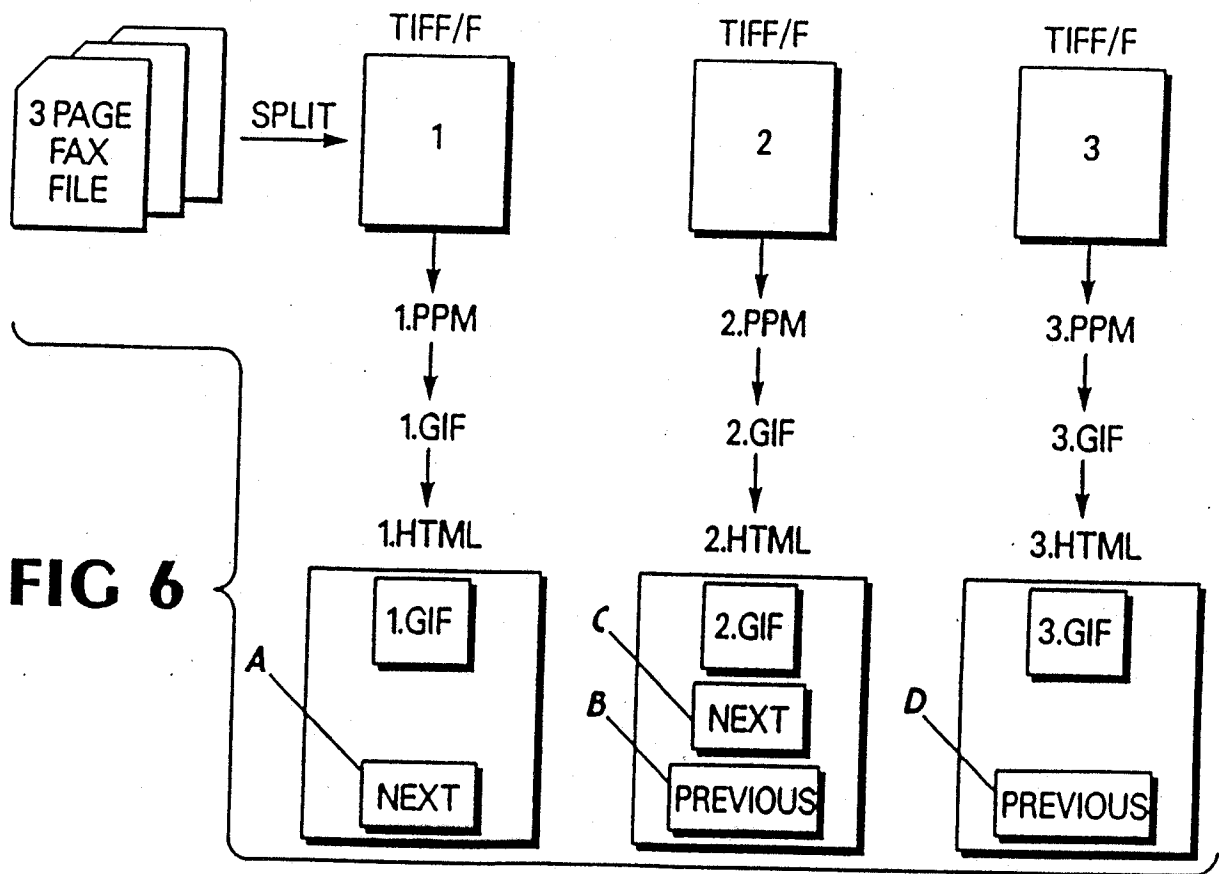
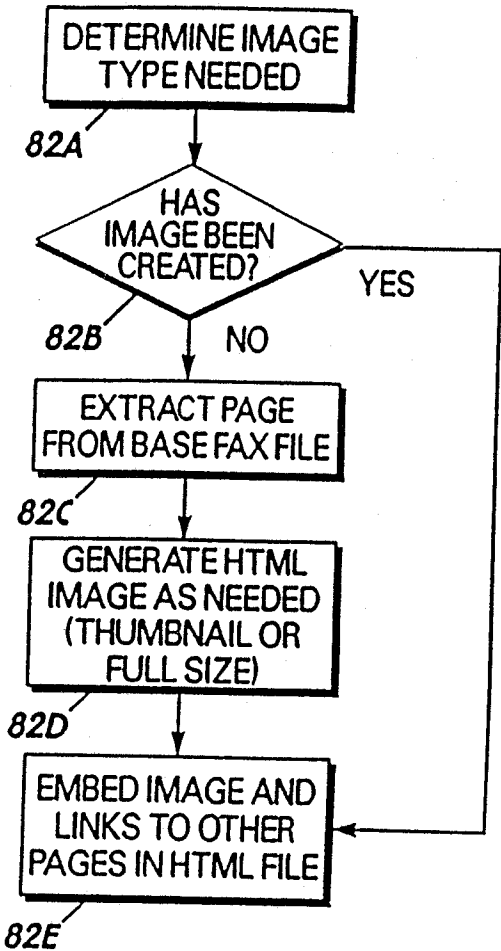


FIG 4B



Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Imaging Messages  
Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
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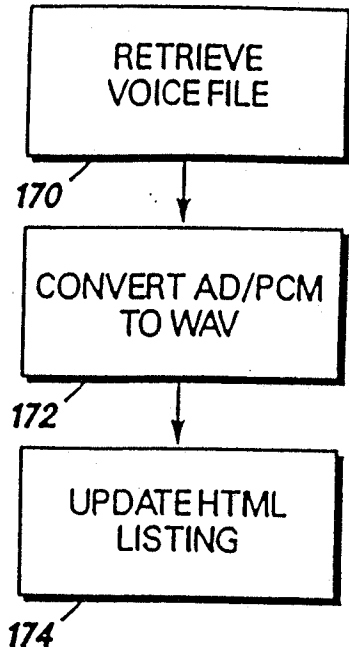
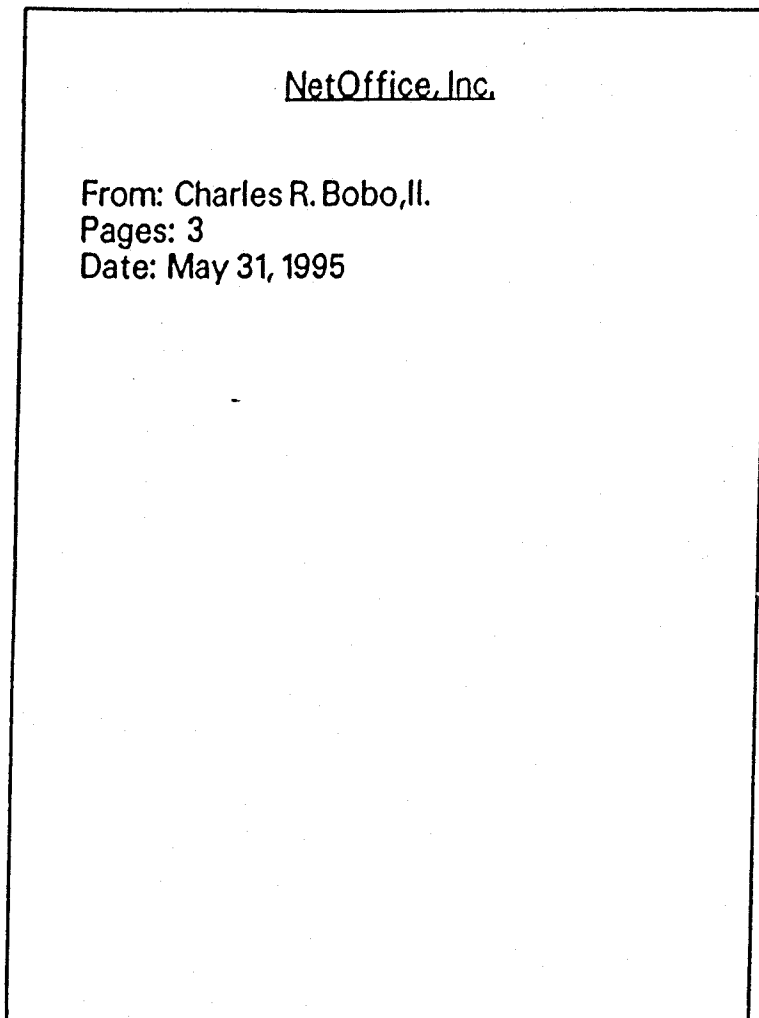


Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing Messages  
Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
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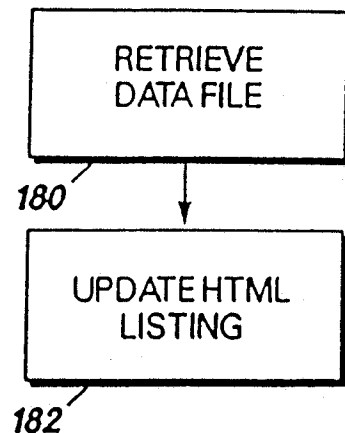
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**FIG 8**



**FIG 9**

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Atlanta, GA 30357  
info@netoffice.com

**FIG 7**

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Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing Messages  
Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 7 of 18

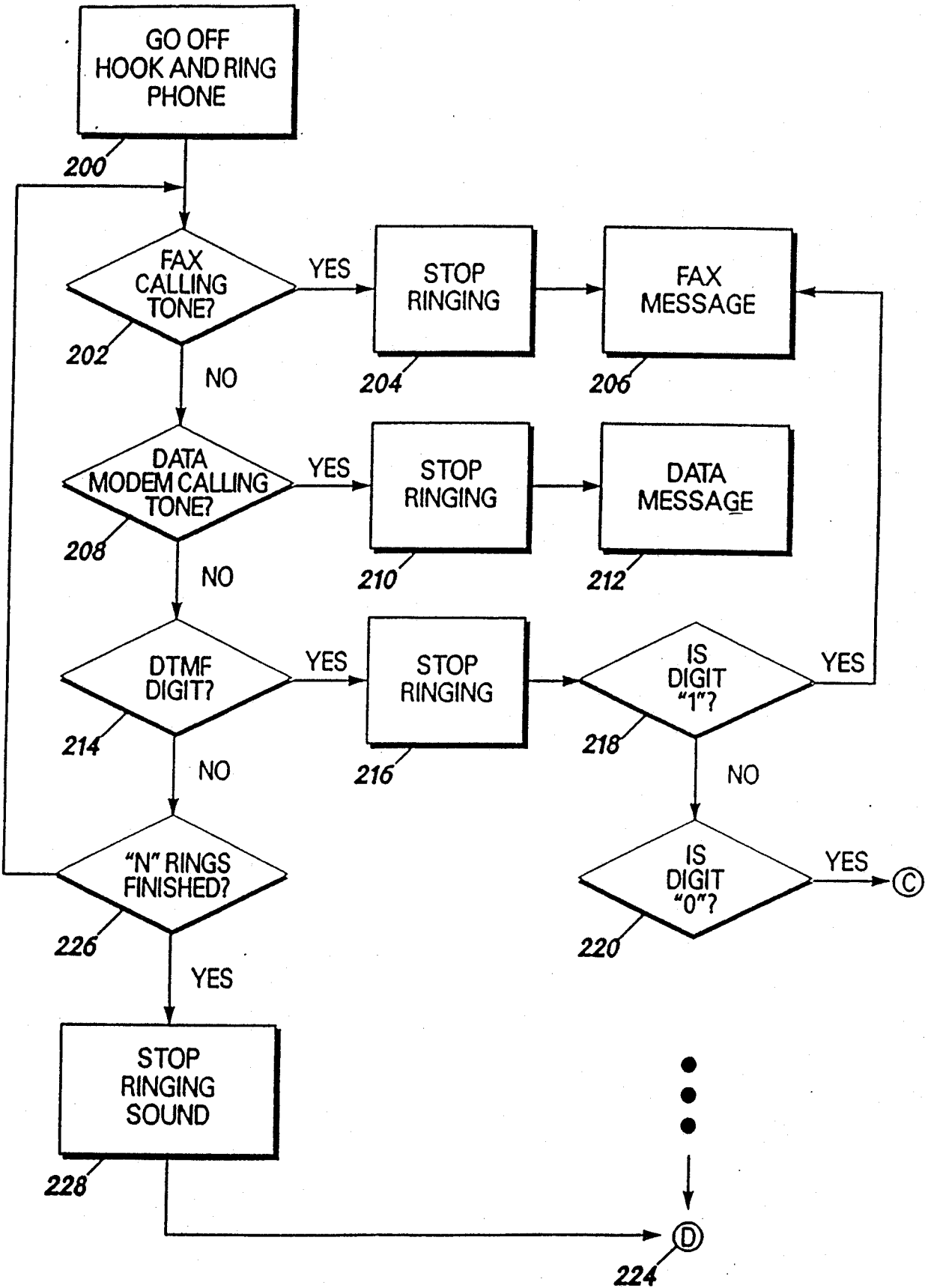


FIG 10

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Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing Messages  
Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 8 of 18

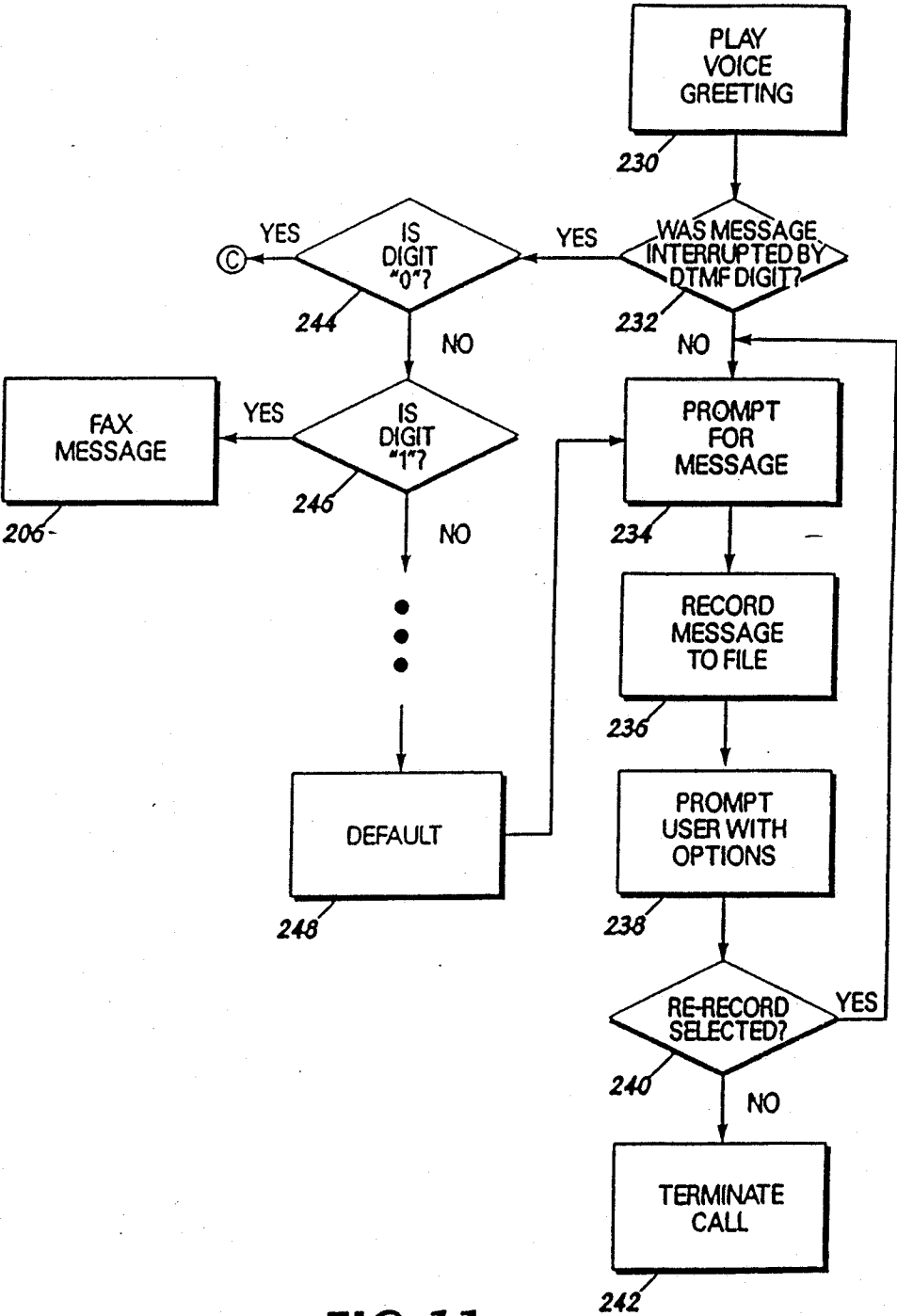


FIG 11

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Inventor: Charles K. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and  
Messages  
Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 9 of 18

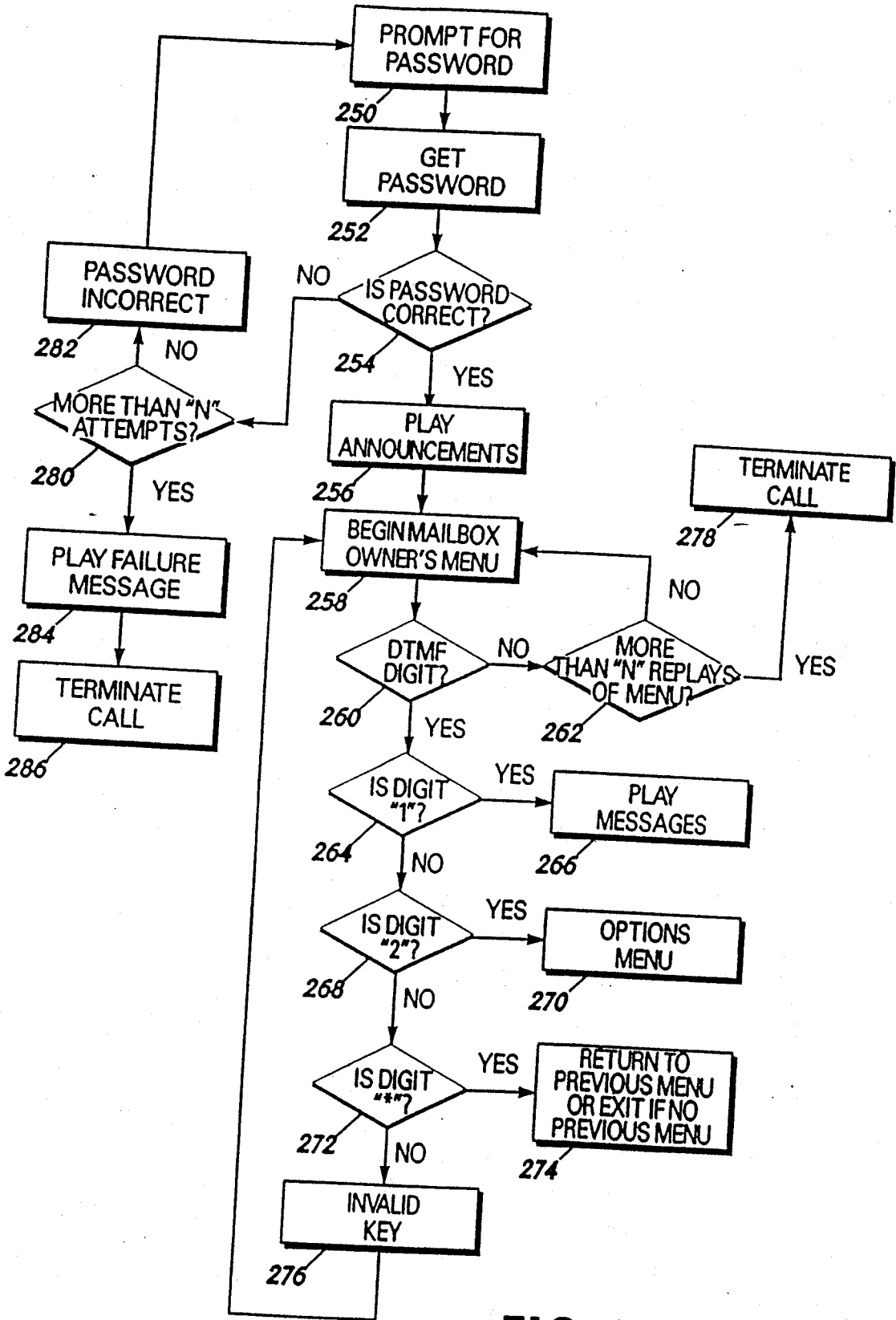


FIG 12

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Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing  
Messages  
Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 10 of 18

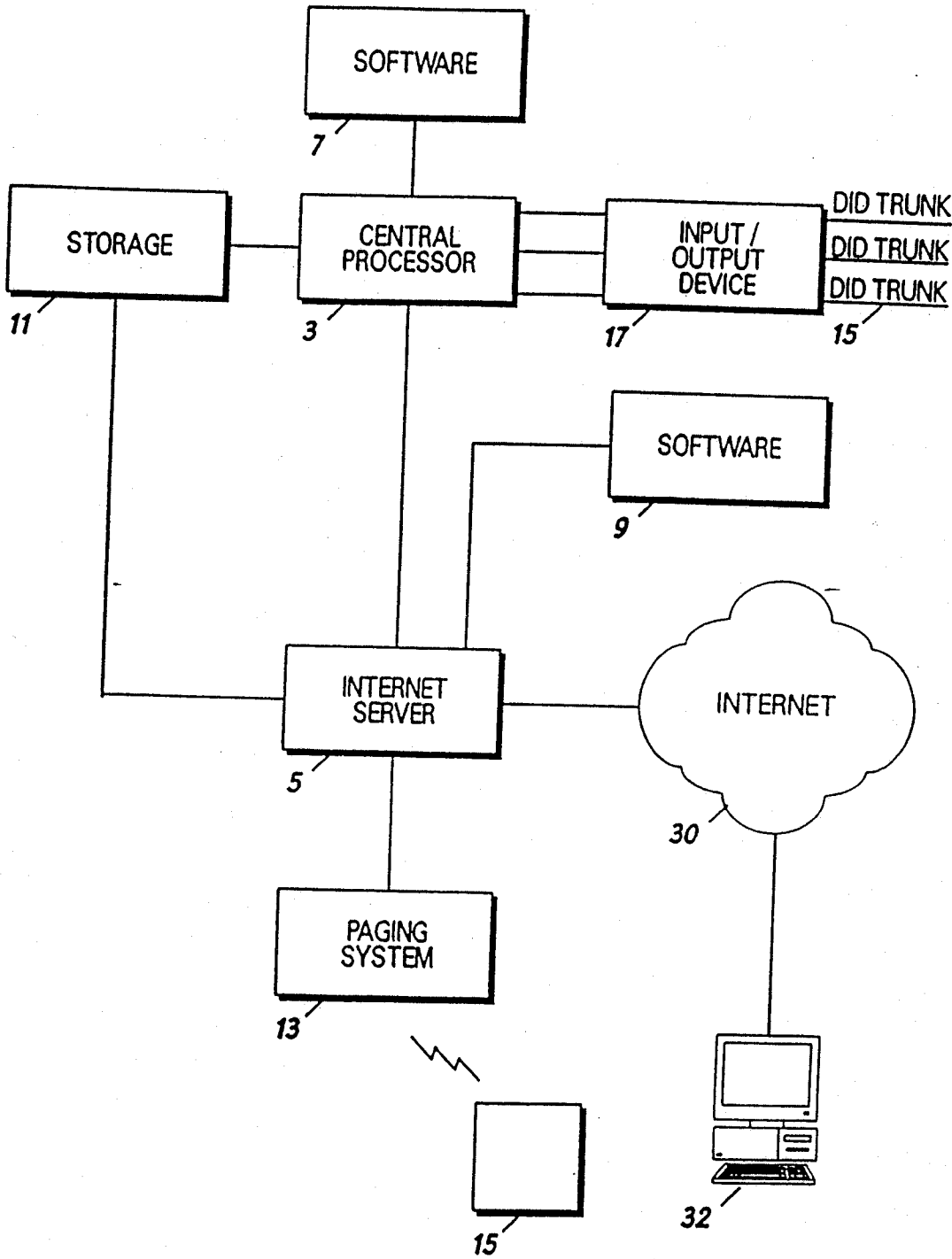
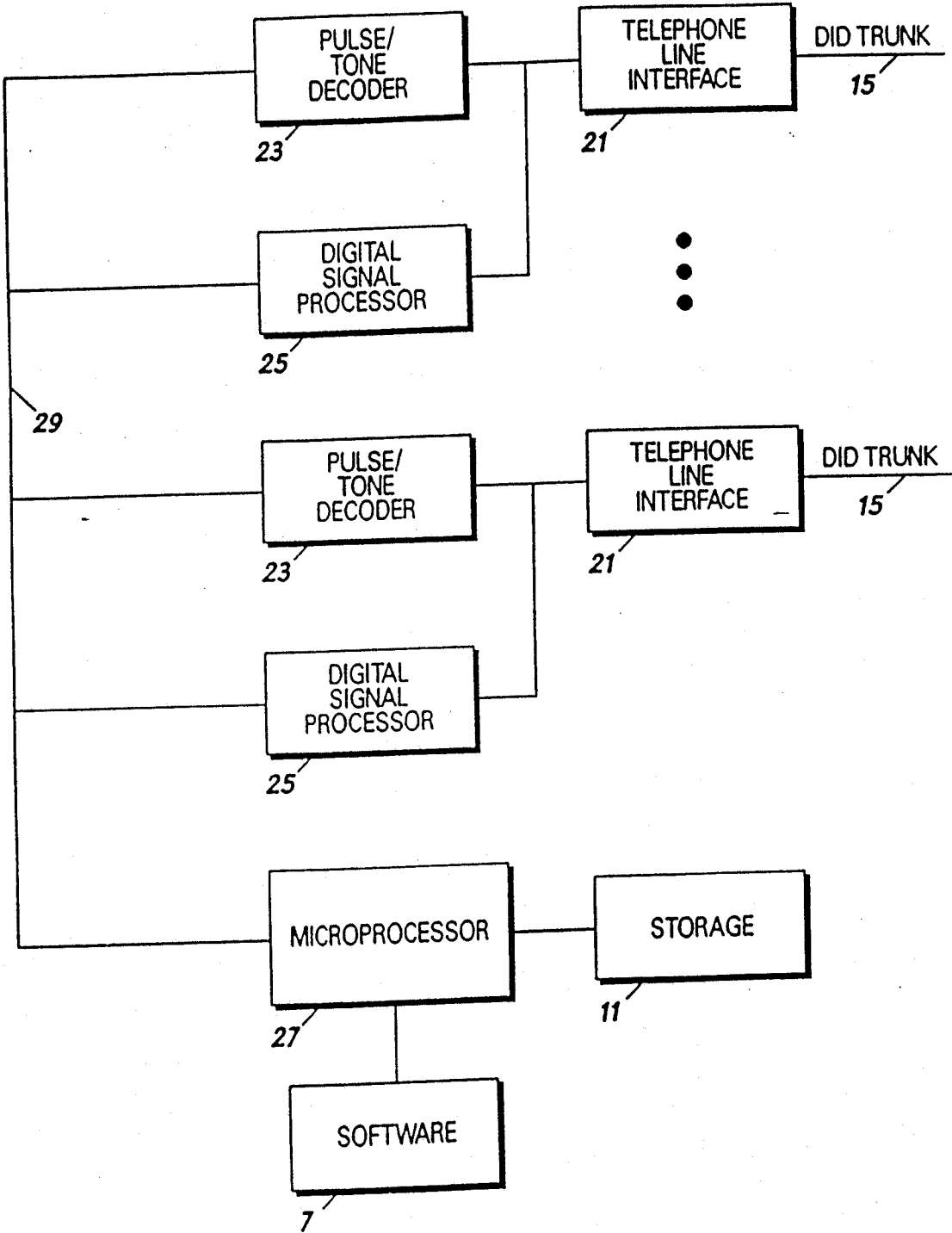


FIG 13

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inventor: Charles K. Bono, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing Messages  
Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 11 of 18



**FIG 14**

Inventor: Charles K. Bodo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing Messages  
Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 12 of 18

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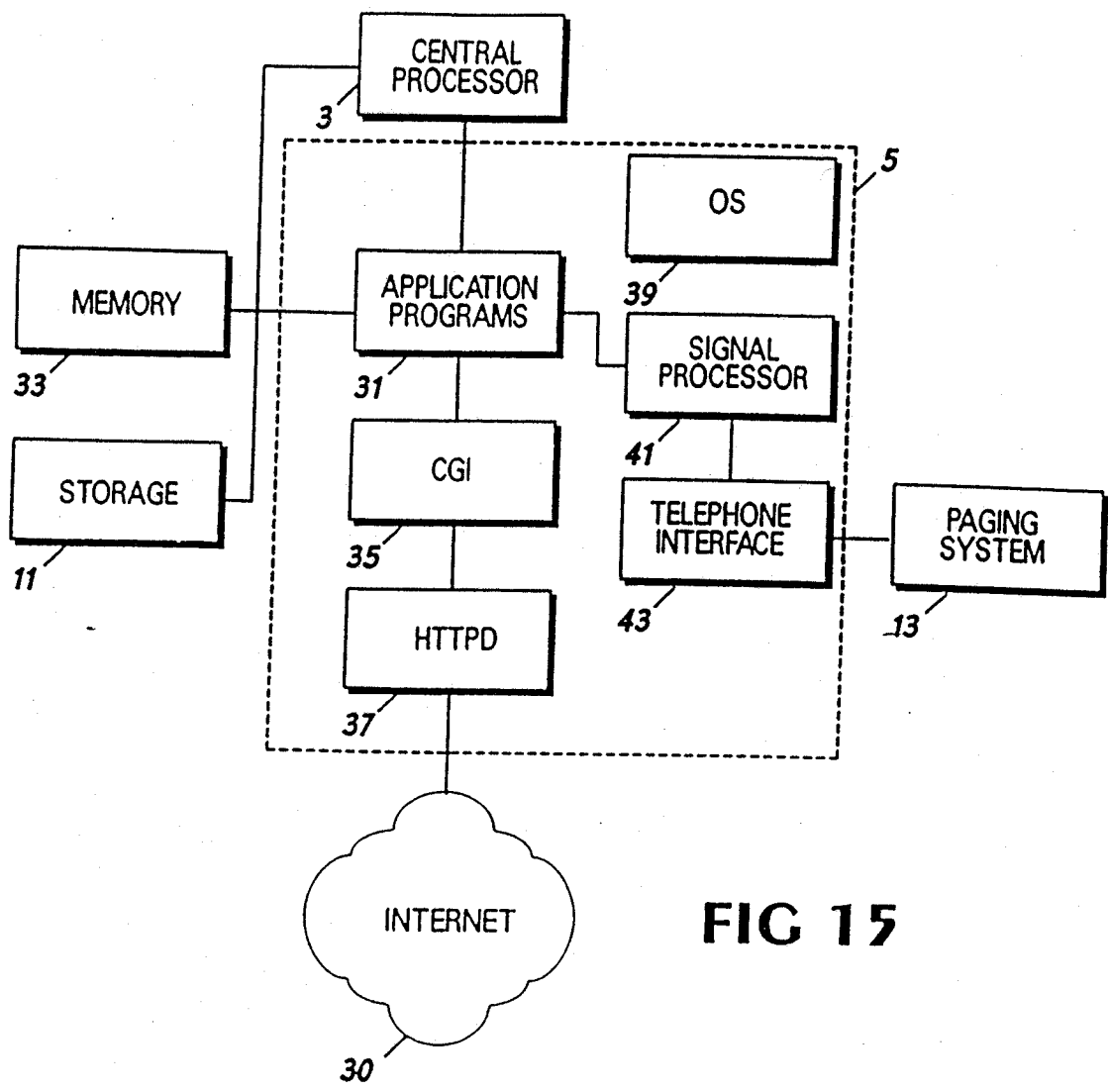


FIG 15

INDIVIDUAL APPLICATION PROGRAMS
COMMON GATEWAY INTERFACE (CGI)
HTTPD
INTERNET DEAMON (INETD)
OPERATING SYSTEM (OS)
TCP/IP

FIG 16A

PREFORMATTED HTML FILE
HTTPD
INETD
OS
TCP/IP

FIG 16B



**PRINT OF DRAWINGS  
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Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing Messages  
Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 13 of 18

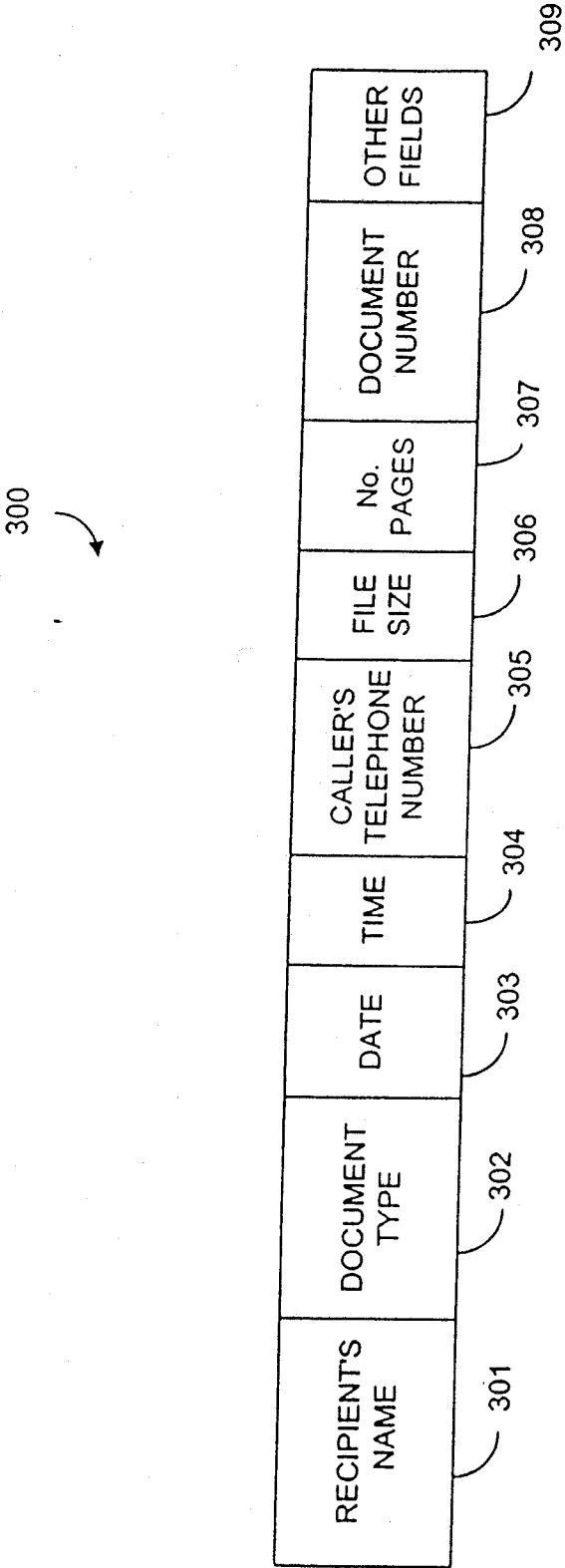


FIG. 17

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Inventor: Charles K. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing Messages  
Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 14 of 18

320

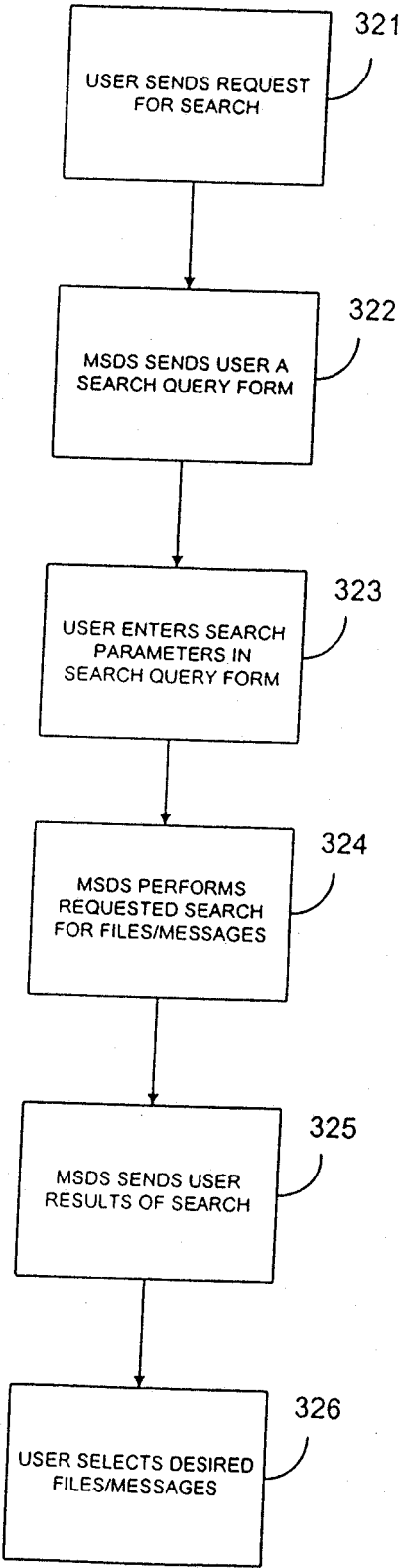


FIG. 18

inventor: Charles K. Bubb, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, Managing  
Messages  
Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 15 of 18

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SEARCH QUERY

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DOCUMENT TYPE:

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TIME:

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DOCUMENT NO.:

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FIG. 19

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Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and M  
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Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 16 of 18

SEARCH QUERY

RECIPIENT'S NAME:

DOCUMENT TYPE:

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DATE:

TIME:

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(404) 249-6801

FILE SIZE:

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DOCUMENT NO.:

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FIG. 20

Inventor: Charles R. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and  
Messages  
Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 17 of 18

**PRINT OF DRAWINGS  
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**SEARCH  
RESULTS**

- 1. Document No. 11: Facsimile from (404) 249-6801 to Jane Doe on May 31, 1995, 3 Pages
- 2. Document No. 243: Facsimile from (404) 249-6801 to Jane Doe on July 16, 1995, 21 Pages
- 3. Document No. 1002: Facsimile from (404) 249-6801 to Jane Doe on January 1, 1996, 10 Pages

SAVE SEARCH AS:

CHARLES R. BOBO FACSIMILES

HELP

**FIG. 21**

Inventor: Charles K. Bobo, II  
Serial No.  
Filed: May 12, 2003  
Title: Systems and Methods for Storing, Delivering, and Managing  
Messages  
Attorney Docket: 10172/285952  
Attorney: Geoff L. Sutcliffe  
Phone: 404.815.6530  
Sheet 18 of 18

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## STORED SEARCHES

1. CHARLES R. BOBO FACSIMILES
2. CHARLES R. BOBO VOICE MESSAGES
3. DATA TRANSFERS FROM 01-01-96 TO 6-01-96 TO  
JANE DOE

HELP

FIG. 22

10172166181 03/12/13

Attorney Docket No. 10172.166181

DECLARATION FOR PATENT APPLICATION

☒ Original                      ☐ Supplemental                      ☐ Substitute                      ☐ PCT

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below), or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

“SYSTEMS AND METHODS FOR STORING, DELIVERING, AND MANAGING MESSAGES”  
(Title of the Invention)

the specification of which (check one)

☒ is attached hereto  
☐ was filed on \_\_\_\_\_ as U. S. Application Serial Number or PCT  
International Application Number \_\_\_\_\_  
and was amended \_\_\_\_\_

(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 (a) - (d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified, by checking the box below , any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Applications			Priority Claimed		Copy Attached	
Application Number	Country	Foreign Filing Date (MM/DD/YYYY)	YES	NO	YES	NO

I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below and claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT international application(s) designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

FILED FOR OCT 1997

"Systems and Methods for Storing, Delivering,  
and Managing Messages"  
Filed: October 6, 1997  
Declaration for Patent Application  
Page 2

Parent Application Number	Filing Date	Status (Mark Appropriate Column Below)		
		Patented	Pending	Abandoned
08/431,716	04/28/95		X (Allowed)	

As a named inventor, I hereby revoke all prior powers and appoint the following attorney(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

FIRM NAME: KILPATRICK STOCKTON LLP, 1100 Peachtree Street, Suite 2800, Atlanta, Georgia 30309-4530

Attorney and/or Agent	Registration No.
Charles Y. Lackey	22,707
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John S. Pratt	29,476
James L. Ewing, IV	30,630
Roy D. Meredith	30,777
Charles W. Calkins	31,814
Michael D. Bednarek	32,329
Dale Curtis Hogue, Sr.	32,823
George T. Marcou	33,014
Dean W. Russell	33,452
Richard A. Clegg	33,485
Andrew Knowles	33,525

Attorney and/or Agent	Registration No.
Richard T. Peterson	35,320
Charles T. Simmons	35,359
Bruce D. Gray	35,799
Theodore R. Harper	35,890
Geoff L. Sutcliffe	36,348
Marcus Delgado	38,122
Nagendra Setty	38,300
Nancy Talavera Wood	38,334
Mike S. Ryu	38,604
Mitchell G. Stockwell	39,389
Michael F. Labbee	39,738
Mitchell G. Weatherly	P40,864

Send Correspondence to: John S. Pratt, Esq.  
Kilpatrick Stockton LLP  
1100 Peachtree Street, Suite 2800  
Atlanta, Georgia 30309-4530

Direct telephone calls to: Geoff L. Sutcliffe, Esq. (404) 815-6530

481179



10436299-00512002

"Systems and Methods for Storing, ering,  
and Managing Messages"  
Filed: October 6, 1997  
Declaration for Patent Application  
Page 3

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor Charles R. Bobo, II  
Inventor's signature Charles R. Bobo II Date Oct 6, 1997  
Residence 569 Elmwood Drive, N.E., Atlanta, Georgia 30306  
Citizenship USA  
Post Office Address 569 Elmwood Drive, N.E., Atlanta, Georgia 30306



PTO/SB/21 (05-03)

Approved for use through 04/30/2003. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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<b>TRANSMITTAL FORM</b> <i>(to be used for all correspondence after initial filing)</i>	Application Number	10/436,798
	Filing Date	May 12, 2003
	First Named Inventor	Charles R. BOBO, II
	Art Unit	2132
	Examiner Name	
Total Number of Pages in This Submission	Attorney Docket Number	10172/285952

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ENCLOSURES (check all that apply)		
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Remarks		

## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Geoff L. Sutcliffe
Signature	<i>Geoff L. Sutcliffe</i>
Date	6-30-03

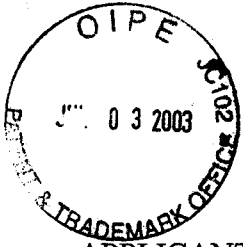
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I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.		
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Signature	<i>Angela M. Rossi</i>	Date 6/30/03

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Charles R. Bobo, II

SERIAL NO.: 10/436,798

GROUP ART UNIT:

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FILED: May 12, 2003

EXAMINER:

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FOR: SYSTEMS AND METHODS FOR  
STORING, DELIVERING, AND  
MANAGING MESSAGES

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Alexandria, Virginia 22313-1450

DATE: 6/30/03  
ATTORNEY DOCKET NO.: 10172/285952

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### INFORMATION DISCLOSURE STATEMENT

Dear Sir:

In accordance with Rules 56, 97 and 98 of the Rules of Practice in Patent Cases (37 C.F.R. §§ 1.56, 1.97, and 1.98), the references listed on the attached modified Form PTO 1449 are cited in the above-identified patent application.

This application is a continuation of patent application Serial No. 09/840,759, filed April 23, 2001, now U.S. Patent No. 6,564,321, which is a continuation of patent application Serial No. 09/186,595, filed November 5, 1998, now U.S. Patent No. 6,356,066, which is a continuation of patent application Serial No. 08/944,741, filed October 6, 1997, now U.S. Patent No. 5,870,549, which is a continuation-in-part of patent application Serial No. 08/431,716, filed April 28, 1995, now U.S. Patent No. 5,675,507. The documents on the attached Form PTO 1449 without an asterisk were cited and made of record in U.S. Patent No. 6,564,321. Pursuant to 37

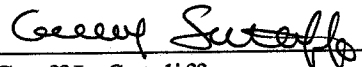
U.S. Serial No. 10/436,798  
Filed: May 12, 2003  
INFORMATION DISCLOSURE STATEMENT

C.F.R. 1.98(d) copies of these documents are not being provided at this time. The documents on the attached Form PTO 1449 marked with an asterisk are newly cited references and copies are enclosed for the Examiner's review and consideration.

This Information Disclosure Statement is being filed pursuant to 37 C.F.R. §1.97(b)(1), i.e., within three months of the filing date and no fee is required for consideration of this Information Disclosure Statement. However, the Commissioner is authorized to charge any fee in connection with this filing to Deposit Account No. 11-0855.

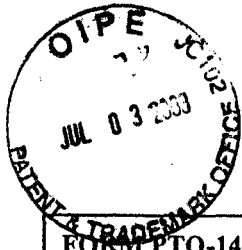
The undersigned does not concede that any of the identified materials constitute prior art within the meaning of the United States patent laws.

Respectfully submitted,



Geoff L. Sutcliffe  
Reg. No. 36,348  
Attorney for Assignee

KILPATRICK STOCKTON LLP  
1100 Peachtree Street, Suite 2800  
Atlanta, Georgia 30309  
404.815.6530



Sheet 1 of 11

FORM PTO-1449  U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT	ATTY. DOCKET NO. 10172/285952	APPLICATION NO. 10/436798
	APPLICANT Charles R. Bobo II	
	FILING DATE 05/12/03	GROUP

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	6,192,407	02/20/2001	Smith et al.			
	6,061,448	05/09/2000	Smith et al.			
	6,055,530	04/25/2000	Sato			
	6,035,332	03/07/2000	Ingrassia, Jr. et al.			
	6,009,173	12/28/1999	Sumner			
	5,960,085	09/28/1999	de la Huerga			
	5,903,723	05/11/1999	Beck et al.			
	5,893,908	04/13/1999	Cullen et al.			
	5,819,295	10/06/1998	Nakagawa et al.			
	5,793,972	08/11/1998	Shane			
	5,790,793	08/04/1998	Higley			
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	5,768,528	06/16/1998	Stumm			
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	5,751,814	05/12/1998	Kafri			
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	5,677,955	10/14/1997	Doggett et al.			
	5,673,316	09/30/1997	Auerbach et al.			
	5,572,643	11/05/1996	Judson			
	5,544,320	08/06/1996	Konrad			

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	<b>APPLICANT</b> Charles R. Bobo II	
	<b>FILING DATE</b> 05/12/03	<b>GROUP</b>

**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	4,816,653	03/28/1989	Anderl et al.			
	4,754,428	06/28/1988	Schultz et al.			
	4,713,780	12/15/1987	Schultz et al.			
	4,532,588	08/04/1998	Foster			
	4,405,829	09/20/1983	Rivest et al.			
	4,289,930	09/15/1981	Connolly et al.			

**FOREIGN PATENT DOCUMENTS**

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

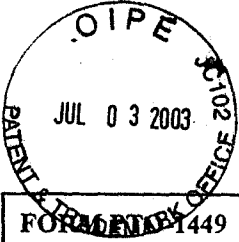
**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

EXAMINER INITIALS	
	B. S. Kaliski Jr., "An Overview of the PKCS Standards," RSA Laboratories Technical Note, RSA Security, Inc. Public-Key Cryptography Standards (PKCS), Revised November 1, 1993.
	"Keys and Certificates," downloaded from the Internet at <a href="http://www.elock.com">www.elock.com</a>
	"Cryptography Systems," downloaded from the Internet at <a href="http://www.elock.com">www.elock.com</a>
	"How does the S/MIME encryption and digital signature process work?" downloaded from the Internet at <a href="http://www.worldtalk.com">www.worldtalk.com</a> , on July 25, 1999.
	"PKCS #7: Cryptographic Message Syntax Standard," RSA Laboratories Technical Note, Version 1.5, RSA Security, Inc. Public-Key Cryptography Standards (PKCS), Revised November 1, 1993, downloaded from the Internet at <a href="http://www.fip.rsa.com">www.fip.rsa.com</a> , on October 1, 1998.

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	APPLICANT Charles R. Bobo II	
	FILING DATE 05/12/03	GROUP

EXAMINER INITIALS	
<i>[Handwritten initials]</i>	C. Ellison, et al., "Default Protecting Secret Keys with Personal Entropy," March 3, 1999.
<i>[Handwritten initials]</i>	"Chaffing and Winnowing: Confidentiality without Encryption," downloaded from the Internet at <a href="http://www.theory.lcs.mit.edu">www.theory.lcs.mit.edu</a> , on July 13, 1999.
<i>[Handwritten initials]</i>	"S/MIME Or OpenPGP? How Will You Secure Your E-mail?" downloaded from the Internet at <a href="http://www.worldtalk.com">www.worldtalk.com</a>
<i>[Handwritten initials]</i>	"S/MIME Frequently Asked Questions," downloaded from the Internet at <a href="http://www.rsa.com">www.rsa.com</a> , on July 23, 1999.
<i>[Handwritten initials]</i>	"S/MIME Frequently Asked Questions," downloaded from the Internet at <a href="http://www.rsa.com">www.rsa.com</a> , on November 16, 1999.
<i>[Handwritten initials]</i>	"SDML-Signed Document Markup Language," W3C Note 19-June-1998, downloaded from the Internet at <a href="http://www.w3.org">www.w3.org</a> , on October 28, 1998.
<i>[Handwritten initials]</i>	C. R. Baudoin, "The Sematech Electronic Mail System," Proceedings of the Digital Equipment Computer Users Society, pp. 221-231, U.S.A., Spring 1989.
<i>[Handwritten initials]</i>	N. Borenstein, et al., "A Multi-media Message System for Andrew," USENIX Winter Conference, Dallas, TX, pp. 37-42, February 9-12, 1988.
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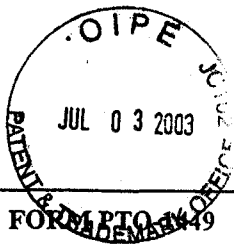
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Sheet 5 of 11

FORM PTO-49 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT	ATTY. DOCKET NO. 10172/285952	APPLICATION NO. 10/436798
	APPLICANT Charles R. Bobo II	
	FILING DATE 05/12/03	GROUP

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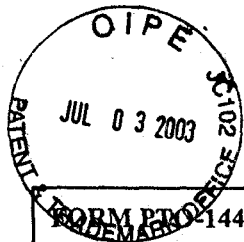
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Sheet 6 of 11

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT	ATTY. DOCKET NO. 10172/285952	APPLICATION NO. 10/436798
	APPLICANT Charles R. Bobo II	
	FILING DATE 05/12/03	GROUP

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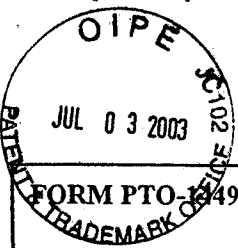
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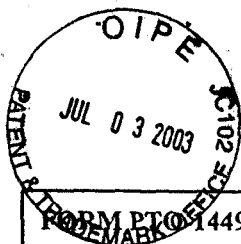
FORM PTO-1549 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT	ATTY. DOCKET NO. 10172/285952	APPLICATION NO. 10/436798
	APPLICANT Charles R. Bobo II	
	FILING DATE 05/12/03	GROUP

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Sheet 8 of 11

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT	ATTY. DOCKET NO. 10172/285952	APPLICATION NO. 10/436798
	APPLICANT Charles R. Bobo II	
	FILING DATE 05/12/03	GROUP

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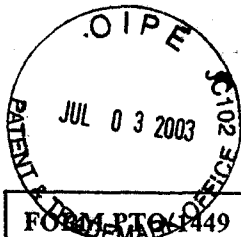
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Sheet 9 of 11

FORM PTO-1449  U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT	ATTY. DOCKET NO. 10172/258952	APPLICATION NO. 10/436798...
	APPLICANT Charles R. Bobo II	
	FILING DATE 05/12/03	GROUP

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Sheet 10 of 11

Form PTO-1449	Docket No.: 10172/285952	Application No. 10/436,798
Applicant: Charles R. Bobo II		
Filing Date: 05/12/03		Group Art Unit

INFORMATION DISCLOSURE  
CITATION  
IN AN APPLICATION  
(Use several sheets if necessary)

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Translation
K	4,106,060	08/08/1978	Chapman, Jr.			
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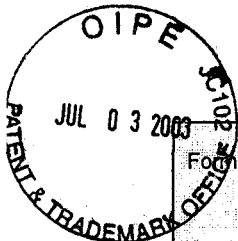
NON U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Translation
K	WO 96/34341	10/31/1996	PCT			
	0 615 368 A2	02/03/94	Europe			
	*755321	04/03/03	Australia			

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Form PTO-1449		Docket No.: 10172/285952	Application No. 10/436,798
INFORMATION DISCLOSURE CITATION IN AN APPLICATION (Use several sheets if necessary)		Applicant: Charles R. Bobo II	
		Filing Date: 05/12/03	Group Art Unit
OTHER MATERIAL			
<input checked="" type="checkbox"/>		Delrina Advertisement, 1994	
<input checked="" type="checkbox"/>		Cope, "Working with ...Fax Mailbox," <i>PCToday</i> , Volume 8, Issue 9, September 1994.	
<input checked="" type="checkbox"/>		Warren, "Voice/fax Combos," <i>Computer Telephony</i> , Sept/Oct. 1994, p.88.	
<input checked="" type="checkbox"/>		Swartz, Barry K. and Stephen B. Weinstein, "Dual-Media Messaging Using Screen Telephones on the Telephone Network, IEEE International Conference on Communications '93, May 23-26, 1993, pp. 1183-1188, Technical Program, Conference Record, Volume 2/3	
<input checked="" type="checkbox"/>		Borenstein, Nathaniel S., "Internet Multimedia Mail with MIME: Emerging Standards for Interoperability," <i>Upper Layer Protocols, Architectures and Applications</i> , 1992, pp. 183-192, Elsevier Science Publishers B.V. (North-Holland)	
<input checked="" type="checkbox"/>		Supplementary European Search Report in European Patent Application No. EP 96 91 3855, search results mailed 11/22/2001	
<input checked="" type="checkbox"/>	✓	*Critical Path Data Sheet – Critical Path Notification Server, 2 pages, December 2002	
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Critical Path Data Sheet



Critical Path Notification Server

In today's increasingly mobile world, users are demanding effective communications tools that help them stay connected wherever they might be. With the Critical Path™ Notification Server, users can be notified about new messages, upcoming events or newly available content through their mobile phones, PDAs and other Internet-enabled devices. The Critical Path Notification Server allows users to create rules that trigger one or more possible types of notification messages or "alerts," which are automatically forwarded via SMS, WAP Push, Instant Messaging or email according to user preferences. Alerts generated by the Critical Path Notification Server increase carrier and service provider revenue through the stimulation of mobile data traffic and additional voice calls. What's more, they help providers promote brand awareness with the ability to sponsor each alert with marketing messages and promotions.

Key Features

The Critical Path Notification Server provides a flexible and extensible framework for building highly scalable notification applications quickly. Content can be delivered to the Notification Server via SMTP or HTTP interfaces. Alert preferences can be automatically configured on behalf of users with the programmatic API. Or, preferences can be set by individual users themselves with a user-friendly, Web-based interface.

Extensible Notification Capabilities

Trigger alerts notifying users of important email messages, upcoming events, task due dates, the availability of new files or content, data storage thresholds, viruses and more. Establish notification

preferences based on message type, sender, priority, time of day, day of week, message content and more.

Sophisticated Alert Routing

Deliver alerts to one or more devices, including PCs, mobile phones and PDAs. Alerts can be sent via SMS, WAP Push, email or instant messages. Supports instant messaging services including the Critical Path Instant Messaging Server, as well as current versions of Yahoo! Messenger, AOL Instant Messenger, and MSN Instant Messenger.\*

Key Benefits

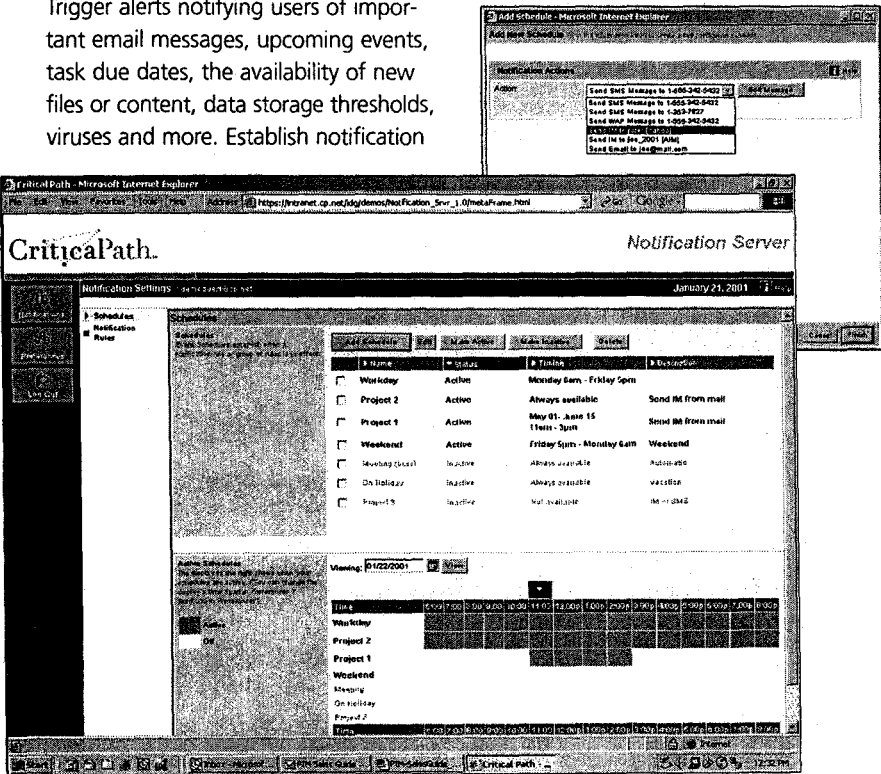
- End users can receive messages and alerts on multiple devices - mobile phones, PDAs or desktop PCs
- Carriers and service providers can extend their reach while increasing network usage and average revenue per subscriber
- Enterprises can mobilize workflows and increase productivity
- Available alerts improve utility of mobile devices, improve usability, and enable integration of new commerce with messaging
- Provides a single notification engine across multiple messaging services, third-party applications and content sources, simplifying alert configuration for subscribers and eliminating the need for redundant alert applications in your infrastructure

Customizable Message Templates

Use templates to specify the structure and content of outgoing alerts, optimizing them for different device types and applications, as well as for different types of alert messages. Custom templates can be created in a simple text editor. Also, leverage many pre-defined templates for common alerts indicating the number of total messages, new messages and high-priority messages that have arrived over a given period or to indicate if a virus has been detected.

Dynamic Key Word Support

Dynamic key words can be inserted into alert templates, enabling customized alert messages.





## System Requirements

### Operating System:

- Win2k
- Solaris 8
- Tomcat 4.0.1 or BEA WebLogic Server 7.0

### Browser Support:

- Netscape 6.2
- Internet Explorer 5.0, 5.5, 6.0

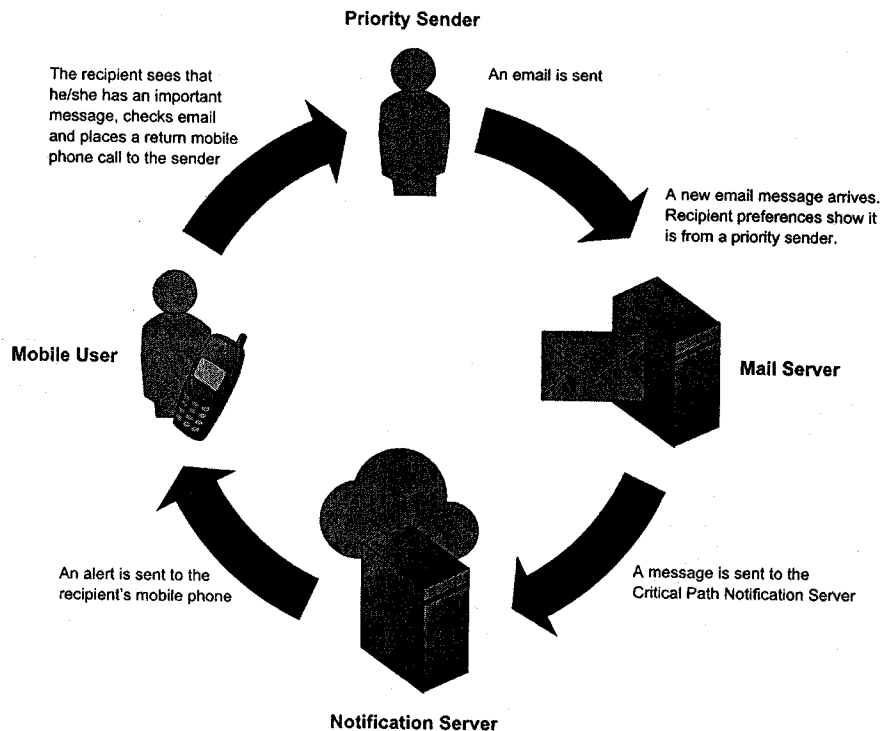
### Supported Application & Service Standards:

- LDAP—to store user profiles
- SMS—to deliver alerts
- SMTP—to deliver email alerts and for incoming notifications
- SIP/SIMPLE—to deliver instant messages
- Supports Critical Path Instant Messaging, Yahoo! Messenger, AOL Instant Messenger and MSN Instant Messenger\*
- HTTP Post—for incoming notifications
- WAP Push—to deliver alerts

### Supported Devices:

- Mobile phones
- PDAs
- Pagers
- PCs (Web browsers, email and Instant Messaging clients)

## Critical Path™ Notification Server In Action



### Support for Multiple Languages

Each domain can support multiple languages, enabling users to receive notifications in their language of choice based on their own personal preferences.

### Create Actionable Alerts

Deploy with Critical Path SMS Access Server and Critical Path Presentation Server to deliver WAP Push alerts, enabling users to easily respond to notifications, view additional detail, and make immediate decisions without having to launch a separate WAP session or messaging application.

### Compatible Components

The Critical Path Notification Server integrates with all of the Critical Path platform components, as well as with third-party products. Compatible Critical Path products include:

- Critical Path™ Presentation Server
- Critical Path™ Directory Server
- Critical Path™ SMS Access Server
- Critical Path™ Personal Address Book Server
- Critical Path™ Messaging Server
- Critical Path™ Internet File Server
- Critical Path™ Calendar Server
- Critical Path™ Instant Messaging & Presence Server

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\*Note: Changes in proprietary protocols may impact compatibility with IM services.

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**Critical Path Data Sheet**

# Critical Path Messaging Server

Noted by industry analysts for its low total cost of ownership, reliability and immense scalability, the Critical Path™ Messaging Server is a proven messaging platform that enables email, enterprise messaging, mobile messaging, IP-based voice mail and unified communications. With the ability to support hundreds of thousands of users on a single server, reliability of 99.999%, easy administration, powerful anti-virus, spam filtering, and hardware requirements that are as much as 75% less than competitive products, the Critical Path Messaging Server dramatically improves user satisfaction and reduces operational costs. A leader in its industry, more than 145 million licensed mailboxes are deployed on the Critical Path Messaging Server today.

## Key Features

### Most Efficient Scalability and Reliability

- Unparalleled scalability, reliability, single-seat administration and advanced monitoring tools minimize hardware requirements (by as much as 75%) and simplify server management
- Can meet the needs of a single workgroup or millions of users
- Supports multiple operating systems and standard storage solutions (such as Network Attached Storage—NAS). Works with existing infrastructure
- Provides transactional integrity, ensuring that no messages fail during sending, and any action initiated during a failure is completed when the service resumes

### Enables Mobility and Customization for Users

- Intuitive Web (HTML), wireless (WML, cHTML) and voice interfaces (VoiceXML). Support for standard messaging protocols such as E/SMTP, POP and IMAP
- Customization capabilities allow you to: brand multiple domains—each with their own look and feel, banner headers and colors; quickly tailor Web, wireless and voice interfaces for specific user groups; provide custom navigation schemes, as well as integrated services and content tailored to various users

- Provides an advanced Web mail application. Automatically detects user language settings and supports email search, spell-check, HTML formatting, business card (vCard) and event (vCalendar) exchange, as well as advanced personalization and user-configurable preferences for a range of features including display options, additional email account access, personal signatures, auto-save to drafts interval, auto-reply message, auto-forward settings, email filters, and password reset

### Extended Flexibility and Features

- Modular address book that can be easily integrated with other messaging applications. Supports multiple address books, personal and shared contacts, distribution lists and LDAP directory access. Contacts can be organized into custom categories for easy search and retrieval, imported and exported, and synchronized with common desktop applications and SyncML wireless devices
- Integrates with the Critical Path™ Notification Server to provide alerts. User preferences trigger notification messages, which are automatically forwarded to mobile phones, PDAs and other Internet devices via SMS, WAP Push, Instant Messaging and email
- Out-of-the-box integration with all Critical Path products

### Comprehensive Administrative Control

- Centralized management and provisioning for multiple servers and mailboxes

## Key Benefits

- Industry-leading TCO. Reduce costs associated with maintenance, administration, physical space, integration, customization and downtime
- Deploy high-volume, multi-million user systems on 1/4 to 1/2 of the hardware that require zero downtime updates
- Achieve unparalleled mailbox protection with comprehensive Internet support, integrated spam and virus protection and robust security features. (No open source code, eliminating hacker susceptibility)
- Simplify administration with Web-based and programmable administration tools. Supports delegated administration and class-of-service provisioning
- Deliver Web, wireless and voice access to email from a single platform, reducing infrastructure complexity and administrator training
- Support integration with existing systems and proprietary software—open standards-based
- Complementary directory, including directory products simplify user profile management and provisioning

- Comprehensive administrative controls for managing server and mailbox configurations
- Advanced features, including delegated administration, class of service and enhanced mailbox monitoring for quota management and message aging
- A browser-based Graphical User Interface (GUI) makes administration easy
- Command-line interfaces make it simple for administrators to automate repetitive administrative tasks with custom scripts, to integrate with existing systems, and to provide subscribers with self-service account maintenance from your portal

## System Requirements

### Operating System and Platform:

#### Back-end Messaging Server:

- Solaris 2.6, 2.7 or 2.8 (8)
- Windows 2000
- HP UX Version 11i or 11.0
- AIX Version 4.3

#### User Interface:

- Solaris 8 with Tomcat 4.0.1 or BEA WebLogic Server 7.0
- Windows 2000 with Tomcat 4.0.1 or BEA WebLogic Server 7.0

### Browser Support:

- Netscape 6.2
- Internet Explorer 5.0, 5.5, 6.0
- WAP 1.1 and 1.2.1 compatible phones
- VoiceXML Version 2.0

### Supported Application and Service Standards:

#### User Interface:

- IMAP4
- POP3
- E/SMTP
- LDAP
- Extensive RFE compliance

#### Back-end Infrastructure:

- JSP
- XSLT
- Servlets
- Javascript

### Supported Device and Interface Standards

- WML
- HTML
- cHTML
- VoiceXML

### Security Standards

- TLS/SSL
- X.509 Certificates
- SMTP AUTH
- POP before SMTP
- S/MIME

## Seamless Integration

- Open and extensible, enabling seamless integration with existing applications. All available APIs can leverage common Internet programming tools, such as Java, Perl, CGI, etc. Available APIs include:
  - Telnet API—integrate with existing provisioning tools for administration from any platform
  - Notification API—generates notifications for delivery to an external notification server
  - Message Submission API—platform and language-independent Internet email access for interfacing applications such as EDI translators
  - Gateway API—Allows the attachment of external gateways for message conversion
  - Messaging Delivery API—allows message notification by alternative delivery services such as pagers, cellular phones, fax machines and voice mail
  - Management API—exposes all available management features.
  - Internet Mail Security Message Filtering API—Provides a Microsoft Windows NT message filtering service interface to the SMTP mail server

## Premium Spam and Virus Protection

- Fully integrated with the industry-leading Brightmail™ Anti-Spam solution for advanced spam protection and easy management
  - Provides the ability to discard or send spam to a bulk mail folder
  - Supports the Mail Abuse Prevention System/Realtime Blackhole List (MAPS/RBL)

- Enables SMTP AUTH or POP-before-SMTP for stronger authentication. Prevents spoofing techniques, which can fool a server into relaying unwanted mail
- Enables limitations on the number of messages sent during each connection, the number of recipients, or the size of the message
- Filtering capabilities enable administrators and users to block messages
- Messages detected as spam will not generate auto-replies or be forwarded to external email accounts or mobile phones
- Deploy the Critical Path Messaging Server in combination with an existing Anti-Virus gateway solution or leverage Critical Path's virus solution based on Symantec® AntiVirus Technologies

## Seamless Migration

- Migrating user mailboxes to the Critical Path Messaging Server is typically completed in a matter of days. Critical Path has successfully deployed the Messaging Server in numerous migration scenarios:
  - Cross-continent and multi-continent migrations—from North America to Asia
  - Multi-million user migrations from all major messaging platforms
  - Offline migrations—where the data is migrated outside normal working hours
  - Online migrations—with near-zero interruption to service.
  - Back-end migrations—where the user experience always remains the same
  - Dual-service migrations—where both the old and new systems are required to run simultaneously

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**Critical Path Data Sheet**

## Critical Path Internet File Server

The Critical Path™ Internet File Server provides anytime, anywhere online file storage and sharing services via a rich and intuitive Web, wireless or voice interface, or via WebDAV-compliant desktop clients, such as Microsoft Windows clients.

### For Consumer Offerings

Consumers will value the Internet File Server for storing MP3s and videos, and for sharing photos with friends and family around the world. Service providers can stimulate usage by pre-populating consumer accounts with a full range of relevant folders and files, such as "My Photos", "My Music" and "My Videos", along with multiple view types, including an intuitive photo thumbnail view. Counteracting the limited storage capabilities of wireless devices, the Critical Path Internet File Server is an ideal enhancement to a carrier's Multimedia Messaging Service (MMS) offering.

### For Business Professionals & Corporations

Providing comprehensive group support and desktop access, the Critical Path Internet File Server is an ideal corporate Public Folders solution. With end-to-end SSL and sophisticated access control, the Critical Path Internet File Server provides the security required when collaborating on confidential business data.

### Key Features

#### Rich Multimedia File Services

- Conveniently store and share files in one central location
- Handles files of any size or type, such as MP3s, videos, photos or sound clips
- Support intuitive view types, including documents view and photo thumbnail view
- Easily navigate between folders, subfolders and files with a familiar file-folder hierarchy
- Add, copy, move, delete, download, and download-as-zip functionality
- Add notes to files and folders
- Flexibly sort and search

#### Convenient Mobile Access

- Manage files anytime, anywhere via Web and wireless interfaces
- Access and send files via the Voice XML interface

#### Desktop Support

- Access, edit and manage online files using popular WebDAV-compliant clients
- Drag and drop files between the desktop and online accounts

#### Tight Email Integration

- Efficiently collaborate with other users by sending files via email or saving attachments to the files area

#### Shared Files

- Easily share files, selecting contacts from your integrated Critical Path Personal Address Book
- Maintain strict control over access privileges extending Read Files, Write Files, Read Permissions and/or Write Permissions to users and user groups
- Conveniently access files other users have shared from the Share List area
- Add and manage folders on external file systems

#### Anonymous User Access

- Enable subscribers to share files with anyone for greater accessibility
- Provide increased security when sharing with unregistered users through a password-protection option

### Key Benefits

- Enable anytime, anywhere file storage and sharing
- Integrate with existing MMS, content services and other messaging services, as well as backend billing, provisioning and reporting systems
- Support Web, wireless, voice and desktop access
- Provide rich interface including document and photo thumbnail view
- Enable sharing with anyone (including anonymous users) or restrict to a closed user group
- Increase productivity with centralized file sharing and automatic shared file notifications
- Enable users to open, save and edit files directly from popular Microsoft Office applications
- Provide comprehensive security, including full and granular access control capabilities
- Easily and flexibly handle any number of Internet domains with millions of users

### Automatic Notifications

- Automatically notify users when extending shared files
- Subscribe to receive automatic notifications when other users add, overwrite or delete files or change access permissions

### Multiple Language Support

- Available in English, French, German, Spanish and Portuguese (Latin American), as well as some double-byte languages
- Easily add support for any language

### Scalability, Reliability

- Provides a highly efficient, horizontally scalable architecture leveraging proven Critical Path technologies
- Supports high availability with automatic failover for mission-critical environments

## Core Architecture Components

### Critical Path Presentation Server—

Web, wireless and voice interfaces to the Critical Path Internet File Server are built using the Critical Path Presentation Server framework. As a result, you can take advantage of extensive branding and customization options and enjoy seamless deployment with other Critical Path applications.

**DAV Client**—WebDAV (Web-based Distributed Authoring and Versioning), a set of extensions to the HTTP protocol, enables subscribers to collaboratively edit and manage files on remote Web servers. WebDAV-compliance empowers end users to access and manage file server accounts from any WebDAV-compliant desktop client.

**Telnet Interface**—A scriptable Telnet interface enables service administrators to efficiently provision domains, user groups and users.

**Critical Path System Console**—An intuitive HTML interface for system management control such as logging, tracing, monitoring and configuration of all services and components.

**Critical Path System Console Agent**—An embedded management agent supports the interface to the Critical Path System Console. Also supports SNMP access to statistics.

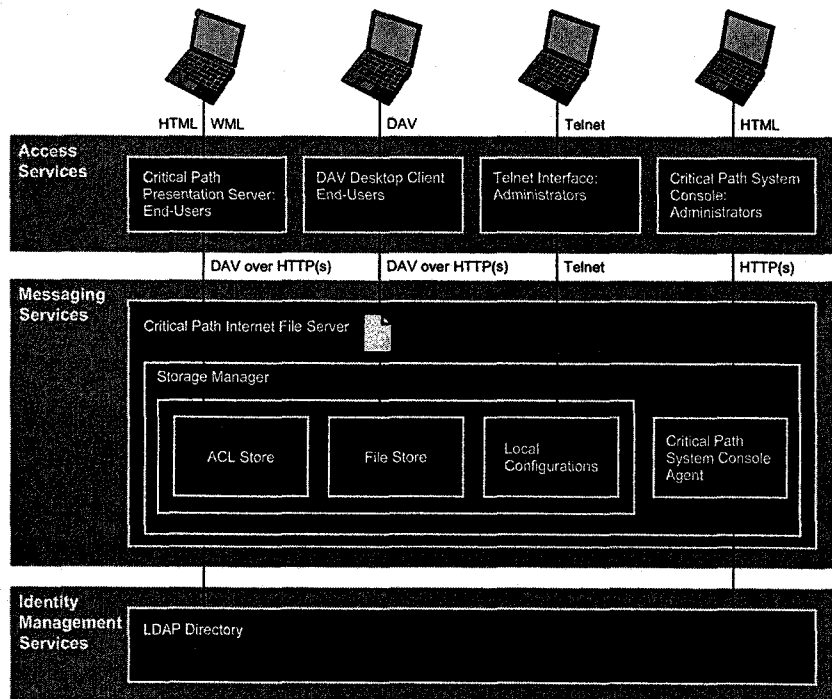
**File Store**—Supports all standard file management features such as PUT, GET and MOVE resource operations, as well as advanced features such as near-transactional quota management and a variety of performance optimization features.

**ACL Store**—Provides highly sophisticated Access Control List (ACL) functionality for controlling access to directories and individual files. Permissions can be set at the user or group level. While the ACL Store maintains all user and user group permissions, the LDAP directory is responsible for authorizing user access.

**Local Configurations**—Maintain user-specific deployment information such as information on ports in use and provisioned domains.

**LDAP Directory**—Like all Critical Path products, the Critical Path Internet File Server uses an LDAP Directory and common schema to maintain user profile data and security information.

## Critical Path™ Internet File Server Architecture



## System Requirements

### Operating System:

- Solaris 8

### Desktop Client Support:

- Windows XP, NT, 2000
- Windows 98 with Office 2000

### Browser Support:

- Internet Explorer 5.0, 5.5, 6.x
- Netscape 6.2
- WAP 1.1 and 1.2.1 compatible phones
- VoiceXML Version 2.0

## Supported Application and Service Standards:

- WebDAV (Distributed Authoring and Versioning protocol)
- SNMP (Access to management statistics)
- JSP
- LDAP

## Supported Device and Interface Standards:

- WML
- HTML
- VoiceXML

## Supported Security Standards:

- SSL

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**Critical Path Data Sheet**

## Critical Path Presentation Server

The Critical Path™ Presentation Server is a standards-based, carrier-class framework that enables the delivery of tightly integrated collaborative applications into a highly customized workspace. With the Critical Path Presentation Server, disparate applications are tied together and presented through a common user interface that supports Web (HTML), wireless (WML, cHTML) and voice (VoiceXML) access.

With its open and modular architecture based on Java Servlet and JSP technologies, the Critical Path Presentation Server makes it easy to integrate applications from Critical Path, as well as those from third parties. The Critical Path Presentation Server provides a robust API, along with a set of reusable components for handling authentication, session management and other utility functions. Furthermore, the flexibility of the JSP templating engine allows interface properties, such as navigation schemes, headers and colors, to be easily configured and customized.

The Critical Path Presentation Server is a core component of Critical Path's platform. User interfaces to all Critical Path messaging products are built on the Critical Path Presentation Server framework, enabling single sign-on and out-of-the-box integration capabilities across products.

### Key Features

#### Web, Wireless and Voice Access

- Supports wireless devices via the JSP template engine
- Presents applications via HTML, WML, cHTML and VoiceXML
- SDK enables the development of additional access methods

#### Integrated User Experience

- Feature-rich, out-of-the-box interfaces for email, calendar, address book, files/public folders and instant messaging/presence
- Easily integrates with third-party applications

#### Customizable User Interface

- Deploy custom-branded services through the JSP templating engine, including custom navigation schemes, banner headers, colors and other interface properties
- Modify standard graphical screen components and JSP pages
- Tailor voice menus and functionality

#### Authentication

- Out-of-the-box support for validation of user credentials and session management
- Facilitate wireless access automating authentication based on unique phone ID (MSISDN)

- For stronger security, set a variety of password rules, store passwords in encrypted format, and protect sessions by using SSL
- Create a session on behalf of a user, or configure to validate against a third-party application's session mechanism

#### User Access Control and Personalization

- Control user access to specific modules. Set permissions on various features within modules
- Personalize page content, applications and services for each user
- Allow personalization based on individual user roles
- Grant users the ability to personalize portal based on their own preferences
- Store user profiles in LDAP directory
- Integrate easily with custom repositories to utilize virtually any user management scheme

#### Administration

- Set up various classes of service for end users
- Delegate administrative tasks
- Simplify administration with an intuitive browser-based, point-and-click interface

### Key Benefits

- Integrate and provide a common UI for email, calendar, address books, file sharing, instant messaging and other communications services
- Provide Web, wireless and voice access to applications
- Tailor user interfaces for any target audience
- Easily integrate third-party applications
- Deploy a single multichannel portal for services such as Web, wireless and multimedia messaging

### International Support

- Most applications available in English, French, German, Spanish, Portuguese (Latin American), Japanese, Korean, Simplified Chinese and Traditional Chinese
- Localize interface into any native language format

### Scalability

- Support application server clustering for increased performance
- Utilize Java Servlet technology to evenly distribute requests across multiple servers
- As your user base grows, scale horizontally to provide near-linear performance improvement as new hardware is added

### Rapid Deployment

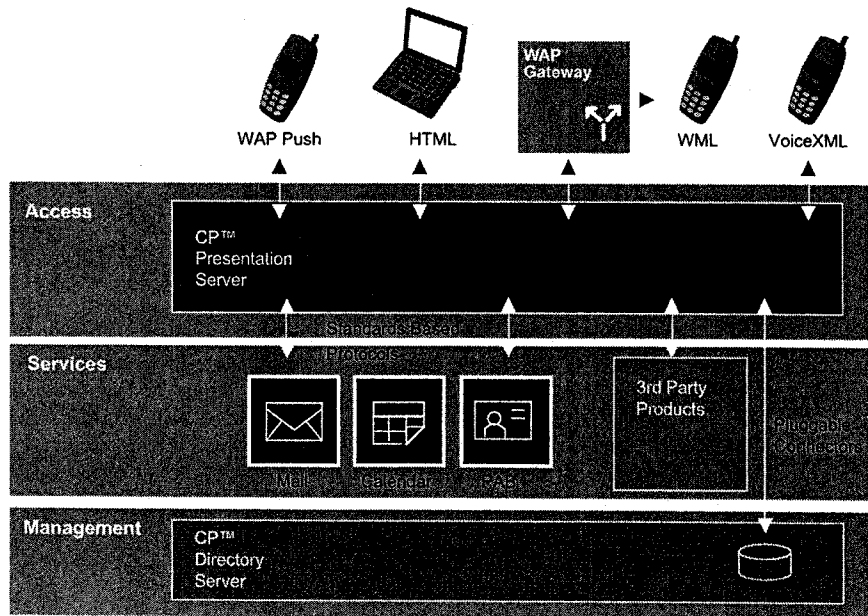
- Leverage existing investments rather than replacing them
- Optimized for use with Critical Path messaging servers, but customers can leverage existing standards-based messaging servers

## Core Architecture Components

The Critical Path Presentation Server contains a request processing facility, an API ("tag library"), service functions, utility functions and an embedded systems management agent.

- **Request Processing**—Based on Sun's Java Servlets and Java Server Pages, this facility enables processing requests from user agents. It is protocol-agnostic, but can be tailored to a specific markup language or form factor.
- **Tag Library**—Provides a programmatic API for the construction of applications. Allows applications to be constructed with a common underlying set of service and utility functions. Provides standards-based interfaces to messaging services.
- **Service Functions**—Present interfaces to the underlying infrastructure services, such as settings, assets and resources, logging, authorization, authentication and provisioning. Each of these interfaces has a plug-in connector that can be customized for a specific implementation
- **System Functions**—Provide common services, such as localization, security, connection pooling, scheduler, session management, etc.
- **System Management**—An embedded management agent supports the interface to the Critical Path System Console.
- **Application Functions**—Provide access to specific messaging capabilities through industry-standard protocols. For example, an email client application accesses standard SMTP and IMAP services through mail application functions. Similar collections of application-specific functions are provided for each Critical Path application built on the Critical Path Presentation Server framework may also be constructed using the SDK.
- **Service Provider Interface**—Access profile, domain and service information using a directory-oriented interface layer. This interface can be mapped to directories, database, files or applications, based on specific implementation needs.

## Critical Path™ Presentation Server Architecture



## System Requirements

### Operating System

- Solaris 8 with Tomcat 4.0.1 or BEA WebLogic Server 7.0
- Windows 2000 with Tomcat 4.0.1 or BEA WebLogic Server 7.0

### Browser Support

- Netscape 6.2
- Internet Explorer 5.0, 5.5, 6.0
- WAP 1.1 and 1.2.1 compatible phones
- VoiceXML Version 2.0

### Supported Device and Interface Standards

- WML
- HTML
- cHTML
- XSLT
- VoiceXML

## Supported Application and Service Standards

- IMAP4, POP3 and SMTP (email)
- CAP and iCAL (calendar)
- LDAP (address book)
- WebDAV (remote file sharing and management)
- XML
- JSP
- JNDI
- SNMP
- SOAP

### Security Standards

- SSL

**Provides Single Sign-on and Out-of-the-box Integration with all Critical Path Messaging Products**

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**Critical Path Datasheet**

# Critical Path SMS Access Server

The Critical Path™ SMS Access Server is a full-function SMS Gateway designed to enable advanced SMS services. It provides interoperability by linking SMS Centers (SMSC's) among disparate carrier networks. This robust gateway enables carriers and service providers to easily deliver rich content such as WAP Push and deploy advanced mobile messaging and interactive services such as weather, sports, games, and high-volume applications such as online voting. The Critical Path SMS Access Server keeps you one step ahead of the technology curve by supporting current protocols and continually adding new application interfaces.

## Key Benefits

- Provides interoperability between incompatible SMS Centers (SMSC's).
- Enables rapid deployment of advanced SMS services.
- Acts as a gateway between email and SMS messaging services.

## Key Features

### Interoperability

- Connect multiple SMSC dispatchers to a single Critical Path SMS Access server over TCP/IP or X.25.
- Facilitate messaging between different SMSC's in different parts of the same network.
- Enable inter-carrier operability by connecting SMSC's on different networks.
- Reduce effort required for intra-carrier and inter-carrier SMS network integration.

### Application Development and Integration

- Leverage Critical Path's flexible, standards-based application programming interface (API)—The Short Message Advanced Services Interface (SM/ASI) to write custom SMS applications.
- Facilitate deployment of customer-facing applications using the SMS-based user interface framework.
- Create content push (one-to-many) and content pull (user-requested) SMS applications with minimal development using pre-built Critical Path SMS server modules.
- Deliver rich content using APIs for key standards such as XML, SMPP and WAP Push.

### Email/SMS Gateway

- Send and receive email directly from a mobile device utilizing the Critical Path SMS SMTP interface.
- Provide remote access to email accounts via IMAP4 clients.
- Provide configurable delivery options on mobile phones without investing in additional infrastructure.

### Scalability

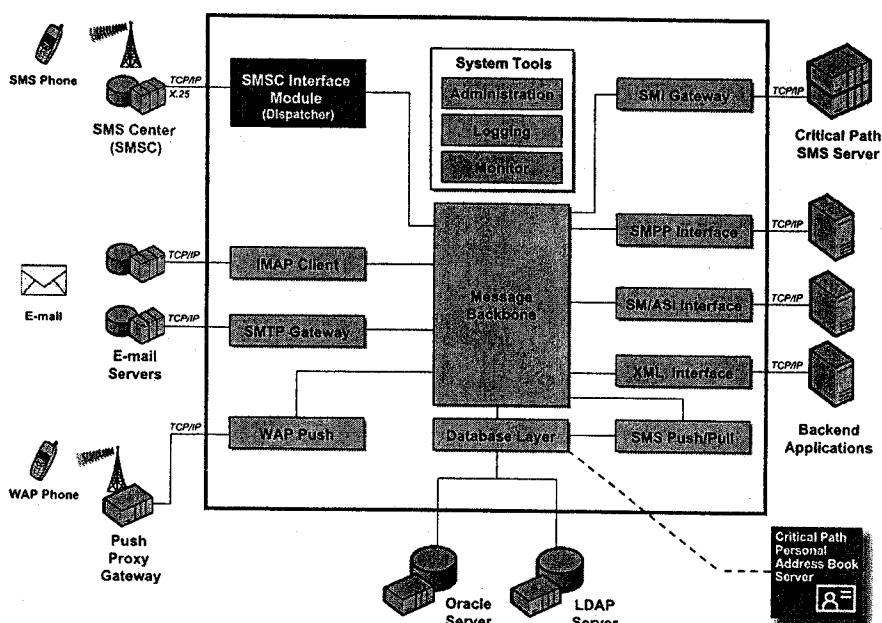
- Modular structure utilizes Java to provide multi-threading, parallel processing and parallel DB sessions.
- Additional servers or interfaces can be added on the fly.

### Reliability

- Carrier-grade, 24/7 reliability.
- Advanced redundancy and fault tolerance.
- Built-in store-and-forward functionality caches messages until delivered.
- Integration capability into high-availability clusters.

### Security

- Built-in features to identify and prevent spamming.
- "White List" allows delivery of messages only from approved sources on the list.
- "Black List" bans messages from any source on the list.
- Mass Mail Protection identifies and bans or throttles multiple identical emails.





## System Requirements— Minimum Configuration

### Server Host (i.e., Sun Enterprise-E250)

- One processor
- 256 MB RAM
- 4 GB available disk space
- DDS-3 DAT
- CD-ROM
- 2x Ethernet
- Solaris 2.6, or 7, or 8.

### Supported SMSC Protocols:

- SMPP
- CIMD2
- UCP/EMI
- OIS
- SMCI
- CAP

### Supported Transport Protocols

- TCP/IP
- X.25

### Supported Email Protocols

- SMTP
- IMAP4

### Supported Application Interfaces

- XML
- WAP Push
- Short Message Service Advanced Services Interface (SM/ASI)

Contact your nearest office today to set up a Critical Path SMS Access Server demo and discuss the value and benefits of Critical Path's digital communications solutions. Or visit our Web site at <http://www.criticalpath.net/> for more information on our messaging and identity management solutions and services.

## Core Architecture Components

**Persistent Message Backbone**—Provides message flow control and buffering to ensure persistent message delivery. If a message cannot pass through the system without full end-to-end acknowledgment, the backbone ensures that it is stored to disk for future delivery.

**Administration**—Controls system start-up and shut-down, restarts failed processes, and handles monitoring, events and alarms. Console provides Java graphical user interface (GUI).

**Logging**—Receives messages from trace points and writes these to event log files. Provides advanced administration, troubleshooting and support.

**Monitor**—Provides access to administration GUI's. Each system component is permanently registered and displayed in the system monitor window.

### SMSC Interface Module (Dispatcher)

Manages the connection between the SMS Access Server and any supported SMSC, utilizing the SMSC's native protocol. The connection uses either TCP/IP or X.25 as the transport protocol. Multiple-dispatcher deployments are common. Supported SMSC protocols: SMPP (Logica), UCP (CMG), CIMD2 (Nokia), OIS (Sema), SMCI (NewNet), CAP (France Telecom)

**SMTP Gateway**—Provides bi-directional messaging between the SMS and SMTP networks.

**IMAP4 Gateway**—Allows users to access their email account directly from their mobile phone. Offers feature-rich SMS-based user interface, enabling users to read, send, forward and reply to email. Provides both administrator and user-defined delivery and alert options. The IMAP4 user interface is internationalized.

**SMI Interface**—Connects remote Critical Path SMS Access Servers to each other. SMI is a proprietary protocol specific to the Critical Path SMS Access Server.

**SMPP Interface**—Provides a server-side interface for SMPP-based application.

**XML Interface**—Provides an out-of-the-box solution for extending services and web-based XML applications to mobile devices via SMS.

**DB Layer**—Provides database access for storing messages, services configurations and subscriber data. Utilizes built-in mSQL database or connects to external Oracle or LDAP database. Allows parallel DB sessions.

**SM/ASI Interface**—Primary development interface of the Critical Path SMS Access Server. The software development kit (SDK) allows you to easily create new or integrate existing SMS applications via the SM/ASI interface. Includes two SMSC simulators for initial development and testing.

**WAP Push**—Enables 1<sup>st</sup> and 2<sup>nd</sup> generation WAP push. Encodes binary SMS (WAP 1.2). For advanced deployments, SMS Access Server can also connect directly to a Push Proxy Gateway via the Push Access Protocol.

**SMS Push**—Directly distributes content to multiple subscribers simultaneously from a backend data source. Provides a user interface for subscribing, un-subscribing and editing individual accounts. Pre-defined services ensure minimal development and deployment effort.

**SMS Pull**—Allows users to access content populated to a backend data source via an SMS-based user interface. Pre-defined services ensure minimal development and deployment effort.

**LDAP Access**—Allows read/write operations to LDAP directories. Enables key functionality such as user provisioning and pre-paid billing.

**Personal Address Book Access**—Enables users to use nicknames, rather than a multi-digit phone number or email address, when addressing SMS messages. When deployed with Critical Path™ Personal Address Book Server, allows end users to access their personal address book from their phone via SMS.

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**Critical Path Data Sheet**

# Critical Path Calendar Server

With the Critical Path™ Calendar Server, you can provide basic and advanced calendar services that help users effectively manage schedules and tasks. Sophisticated collaboration features enable group scheduling and allow shared access to calendars and task lists. With support for multiple access standards, users have the flexibility to use the calendar service through wireless devices, Web browsers, desktop PC clients and voice interfaces. The Critical Path Calendar Server supports traditional desktop synchronization, SyncML and extensible notification capabilities. Highly scalable and standards-based, the Critical Path Calendar Server also delivers interoperability with other Personal Information Management (PIM) applications.

## Key Features

### Universal Access

- Supports WML, HTML and cHTML (i-mode) interfaces to enable users to add, modify and delete calendar events, meetings and tasks through wireless, Web browser and voice interfaces
- vCalendar, iCalendar and iTIP support allows users to access calendar services through popular desktop clients, such as MS Outlook

### User Interface Customization

- Easily modify custom navigation schemes, banner headers, colors, look-and-feel and other interface properties
- Deliver custom-branded services based on the needs of specific users or groups via flexible UI templates
- Ease creation, development and branding of calendar interface through reusable user interface (UI) templates based on Java Server Page (JSP) tag libraries; allows UI template customization without detailed knowledge of Java or other programming languages—simple HTML and scripting skills are all that is required

### Calendar Searching & Sharing

- Share specific calendars with other individuals and groups using user-defined access control lists
- Search for other calendar users, public events calendars or resource calendars for better collaboration

- Search for other users' personal calendars by the following attributes:
  - Given name
  - Family Name
  - Email address
- Allow other users to:
  - Read events
  - Create, edit and delete events
  - View free/busy availability
- View public events and load content into public calendars to share information in calendar form

### Group Scheduling

- Create a meeting request and invite multiple attendees from inside and outside your organization
- Ease group scheduling through a "check availability" feature that enables users to determine the availability of other participants before meetings and appointments are scheduled
- Forward meeting requests to uninvited calendar users
- Accept and decline events
- Schedule recurring events

### Synchronization

- Provide client-side synchronization through a brandable synchronization tool.
- Allow end users to synchronize events from the Critical Path Calendar Server with Palm devices, MS Outlook and Lotus Notes
- Supports "over-the-air" synchronization of calendar data with SyncML enabled devices (requires SyncML Server)

## Key Benefits

- Enhanced mobility with wireless, Web, voice and desktop PC client access
- Easily customize and brand with a flexible user interface
- Boost productivity with calendar sharing for events and tasks
- Enabled collaboration with group scheduling
- Facilitate event attendee availability checks with free/busy lookup
- Enable real-time reminders and alerts on time management with support for synchronization standards

## Notification

Enhance notification capabilities by integrating the Calendar Server with the Critical Path Notification Server:

- Enable users to set alert preferences based on time, date and message criteria, such as priority, sender, recipient, subject line
- Extend notification capabilities to include alerts via email, SMS and Instant Messaging
- Support external content feeds (such as weather, stock reports and sports scores)